

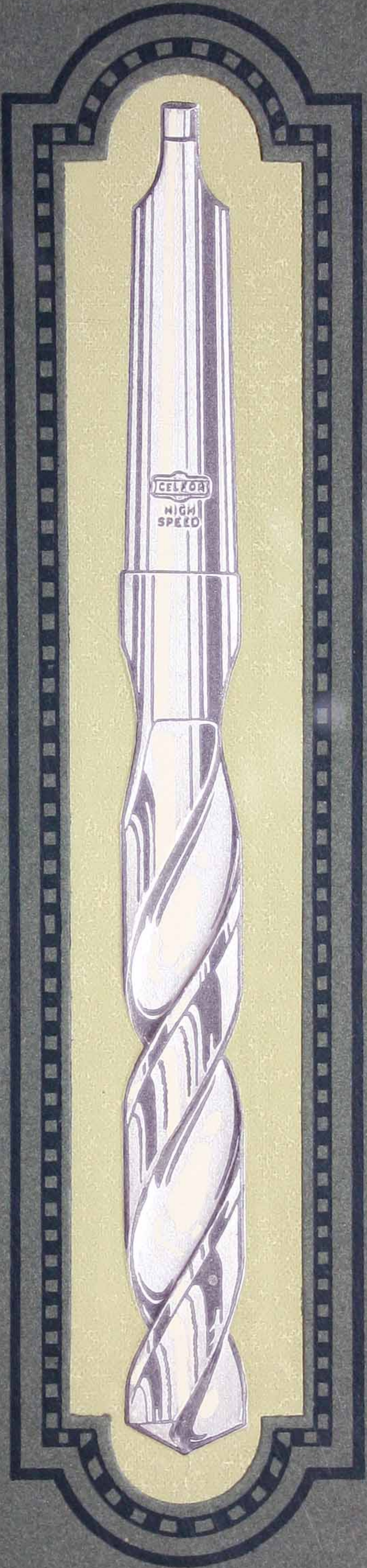
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PUTTING
METTLE
INTO
METAL

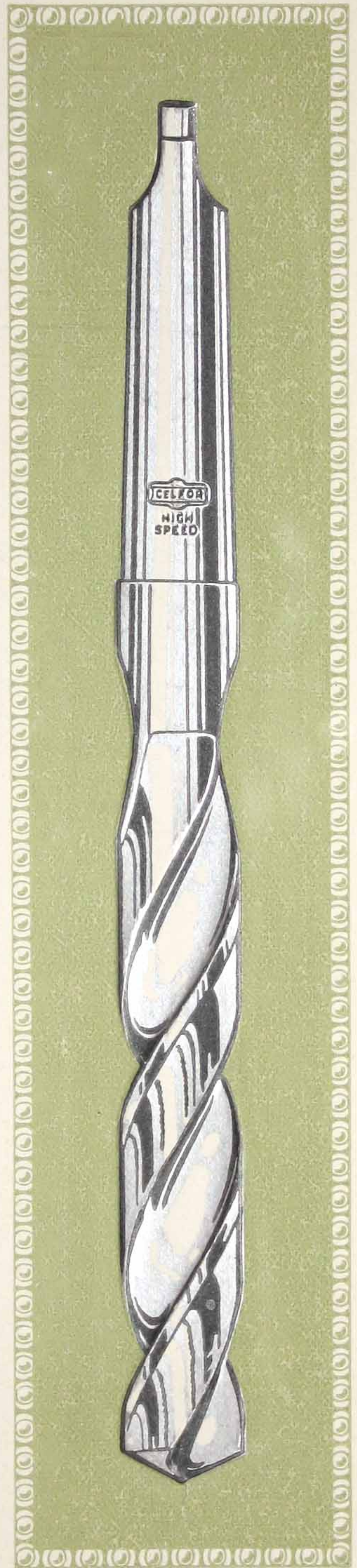
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CCA



PUTTING METTLE INTO METAL



CLARK EQUIPMENT COMPANY
BUCHANAN · MICHIGAN



LEXICOGRAPHY

Cel'for (from Latin "*celeritas*"—speed and "*fortis*"—strength) a trade marked name for High Speed Twist Drills and Precision Tools of merit.

—the standard of the machine world by which all drills are judged.

What Mettle Is

IT is quality—highest quality. It is spirit—conquering spirit. It is life—tenacious life. It is temperament—a distinctive vital force.

It despises crass. It hates inferiority. It disdains the mediocre. It will have naught to do with common things. It glories in the highest and best.

It is that intangible yet potent thing which laying hands upon the best of men touches their hearts as with a spark and enthuses them with the will to be and to do.

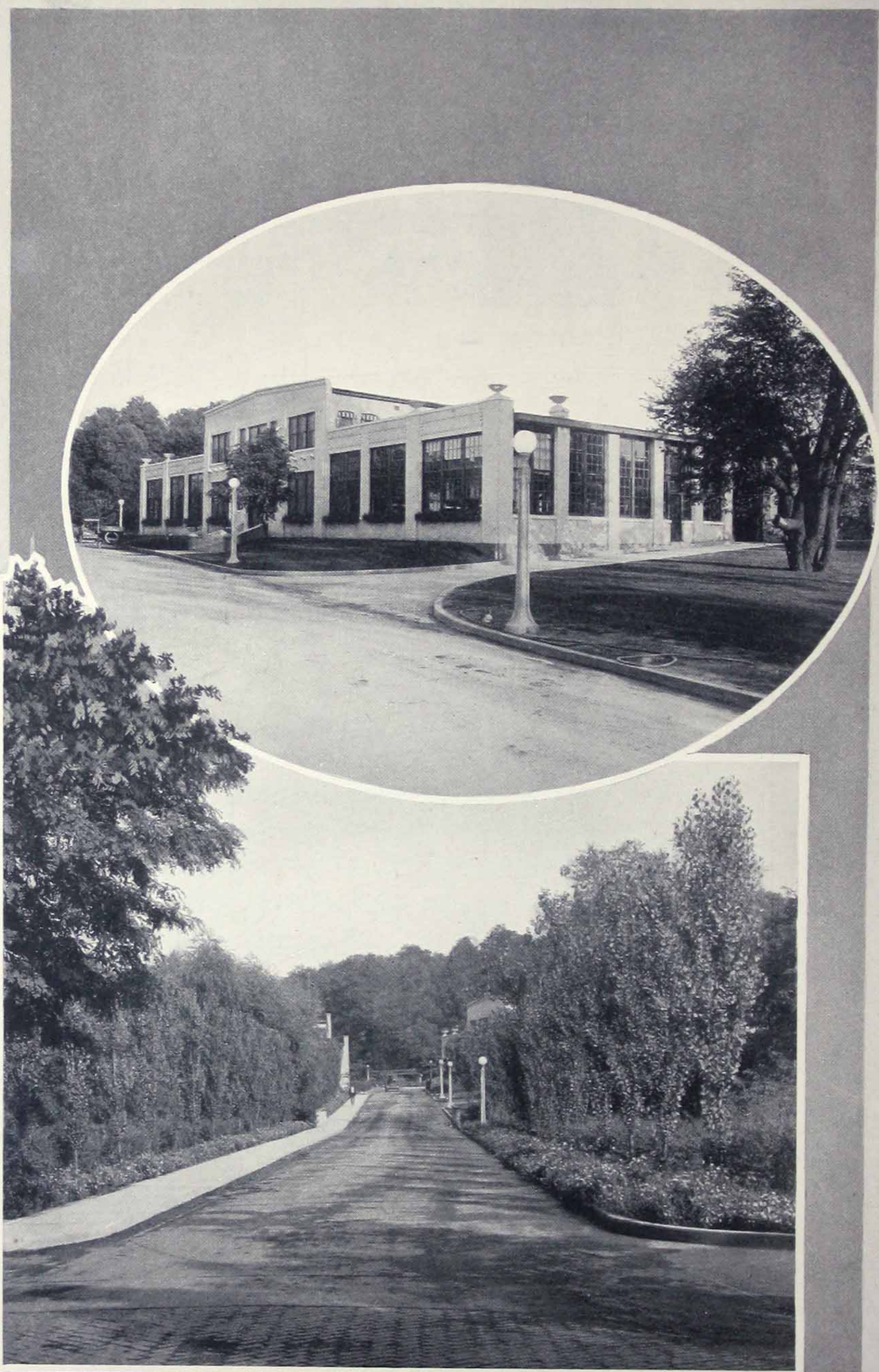
It is the “nerve” on which the spent runner wins the race. It is the dynamic of the thoroughbred. It is the source of hidden strength tapped by the gallant steed as he noses out a rival in the crucial moment of the handicap.

It is toughness, stamina, endurance, vitality, bred-in-the bone grit; it is all this and more.

It is the inherent life and spirit of Celfor drills—the masterful quality built into them by earnest eager men whose product is their pride—the replica of the spirits of good men and true, wrought in the best of steel.



CELFOR



Entrance to the park-like plant of beauty
where Celfor drills are made.



YOU ARE WELCOME HERE

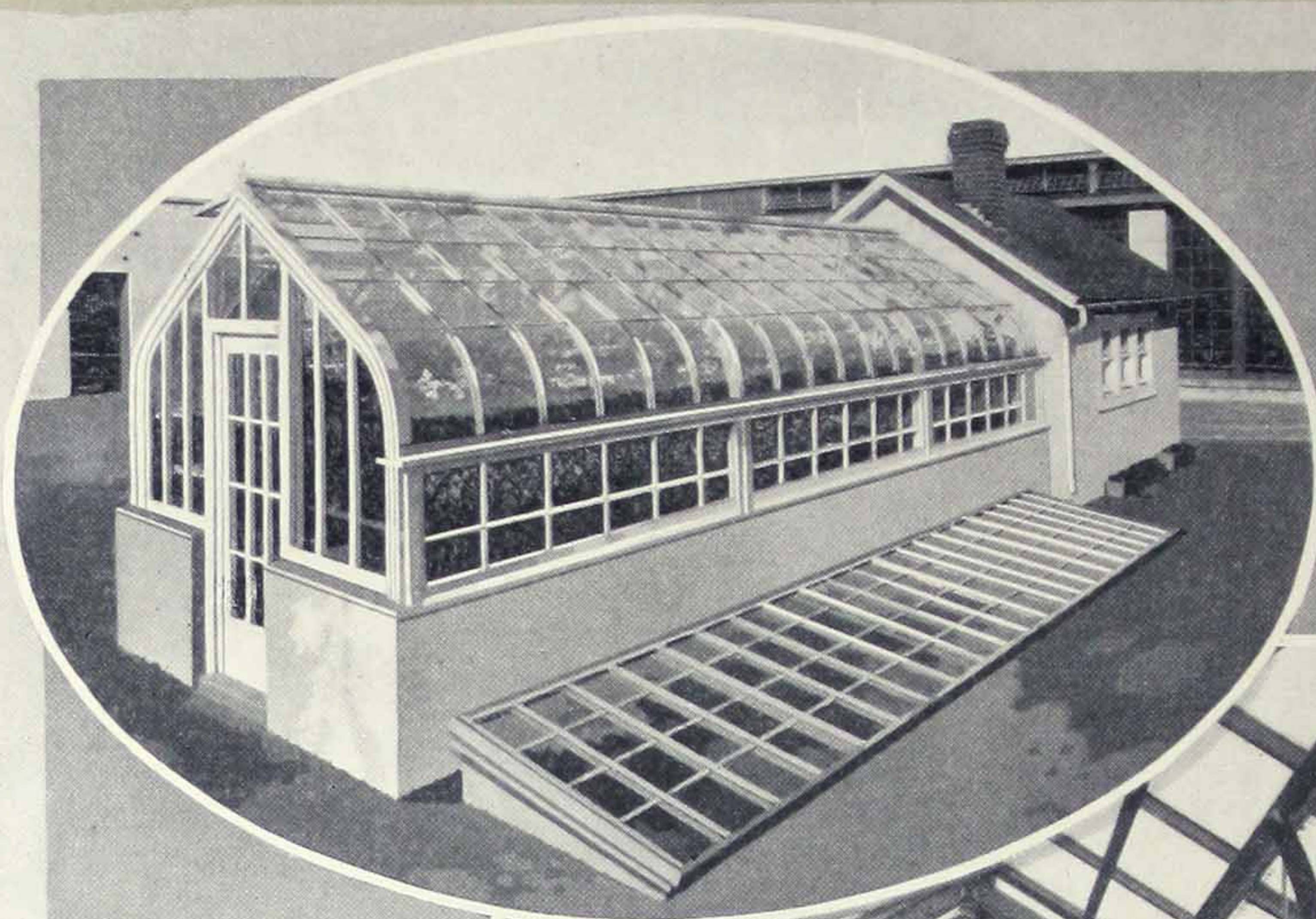
THE virility of a plant is determined very largely by the amount of sunshine it enjoys. Men grow in strength and stature and spirit as they are given an abundance of fresh air and sunshine. Here is a plant where sunshine and fresh air abound — abundantly abound.

Each morning a throng of healthy, hearty men and women troop up to the plant through a long avenue of Lombardy poplars along fragrant flower beds. They whistle as they come—for is not all the world atune?—even the robins flirt upon the velvet lawns.

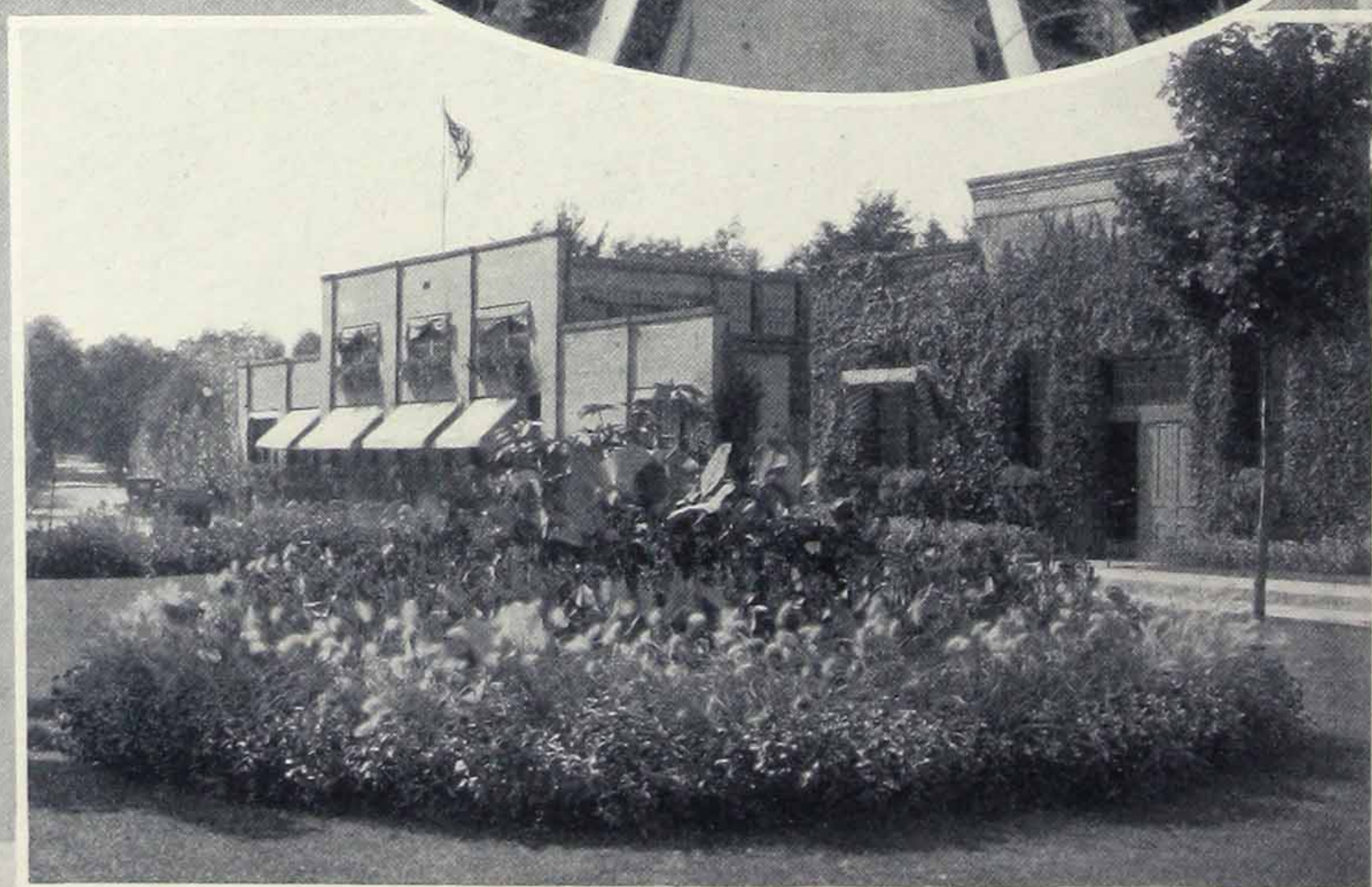
All buildings of this modern plant are of “daylight” construction. Light and sunshine are everywhere. Blowers and suction fans sweep fresh air into every nook and cranny. Crystal clear water gushes from white enamel drinking fountains in every building. The atmosphere and environment, the facilities for work and the safeguards of health, the material, method, and inspiration, all are conducive to the best work.

The whole idea back of the plant is to provide profitable work for able men under conditions that will enable them to get the most out of life by putting their best into life—that’s what makes Celfor drills.





How roses and
flowers and
velvety lawns
let joy into
forge and foundry.





WHERE NATURE HOLDS SWAY

THE healthy American gets a lot of fun out of his work—more so than the man of any other nation. It's one thing to do a job and another to do it well—there's fun in the latter. The consciousness of a good work faithfully done is the thing really worth while.

The plant here is a park. Nature wouldn't have put so much green into the landscape and blue into the sky if it wasn't a good thing for the hearts of men. So here we have tucked away in one corner of our plant a complete greenhouse and conservatory equipment, where a skilled horticulturist who loves flowers, propagates and grows all sorts of rare bulbs and plants to beautify the grounds.

Each office has a pot of growing flowers—each window ledge has its flower box—each lawn its flower bed—each walk its flower border.

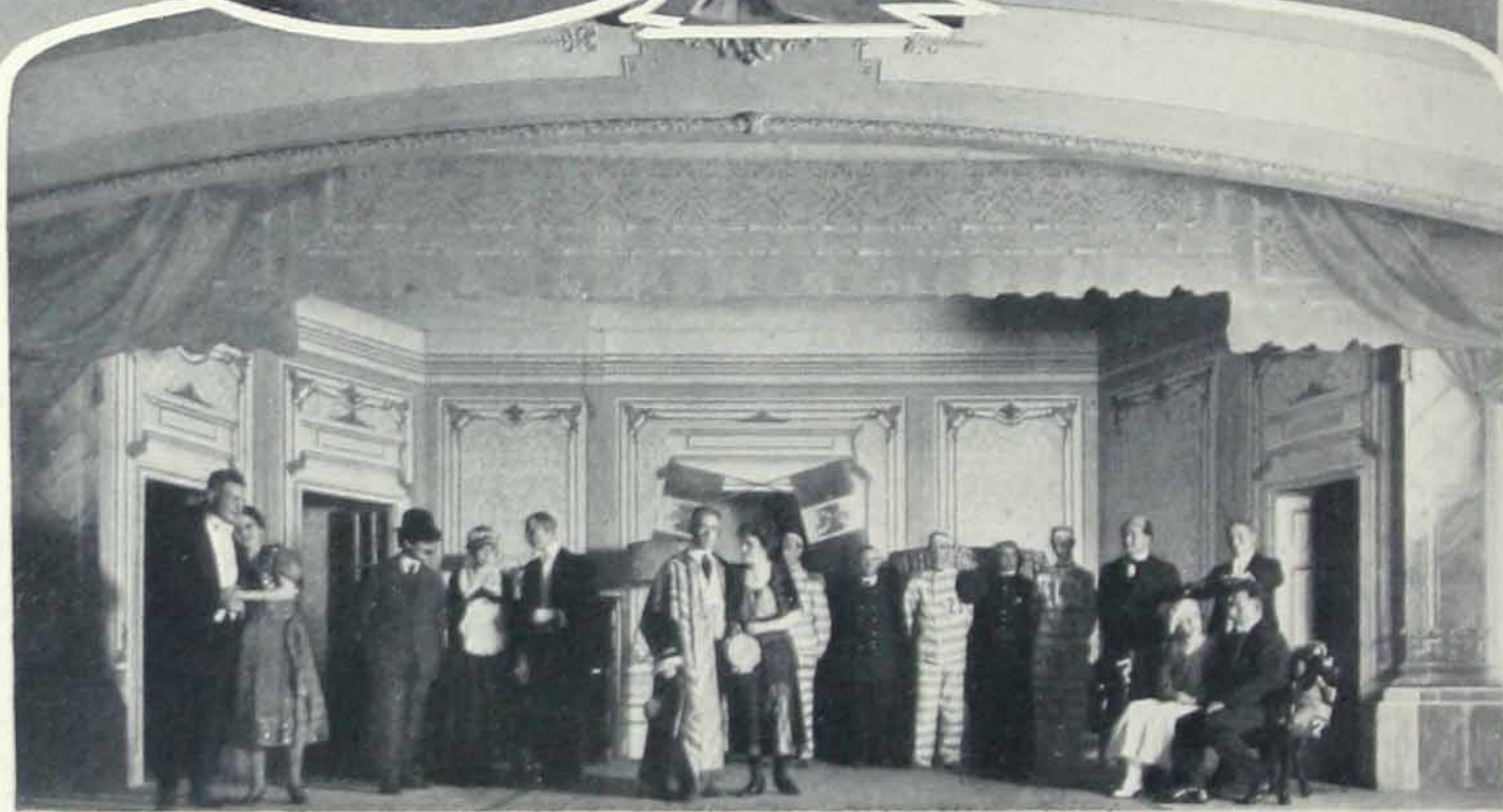
It really means something to step out of the foundry or forge room from the blinding flash of fire and din of hammer, and rest your eyes on ornamental lawns of velvet smoothness, and let your ears absorb the musical banter of the song birds.

The environment which tempers the souls of men must of necessity leave its impress upon the product of their skill—Celfor drills.

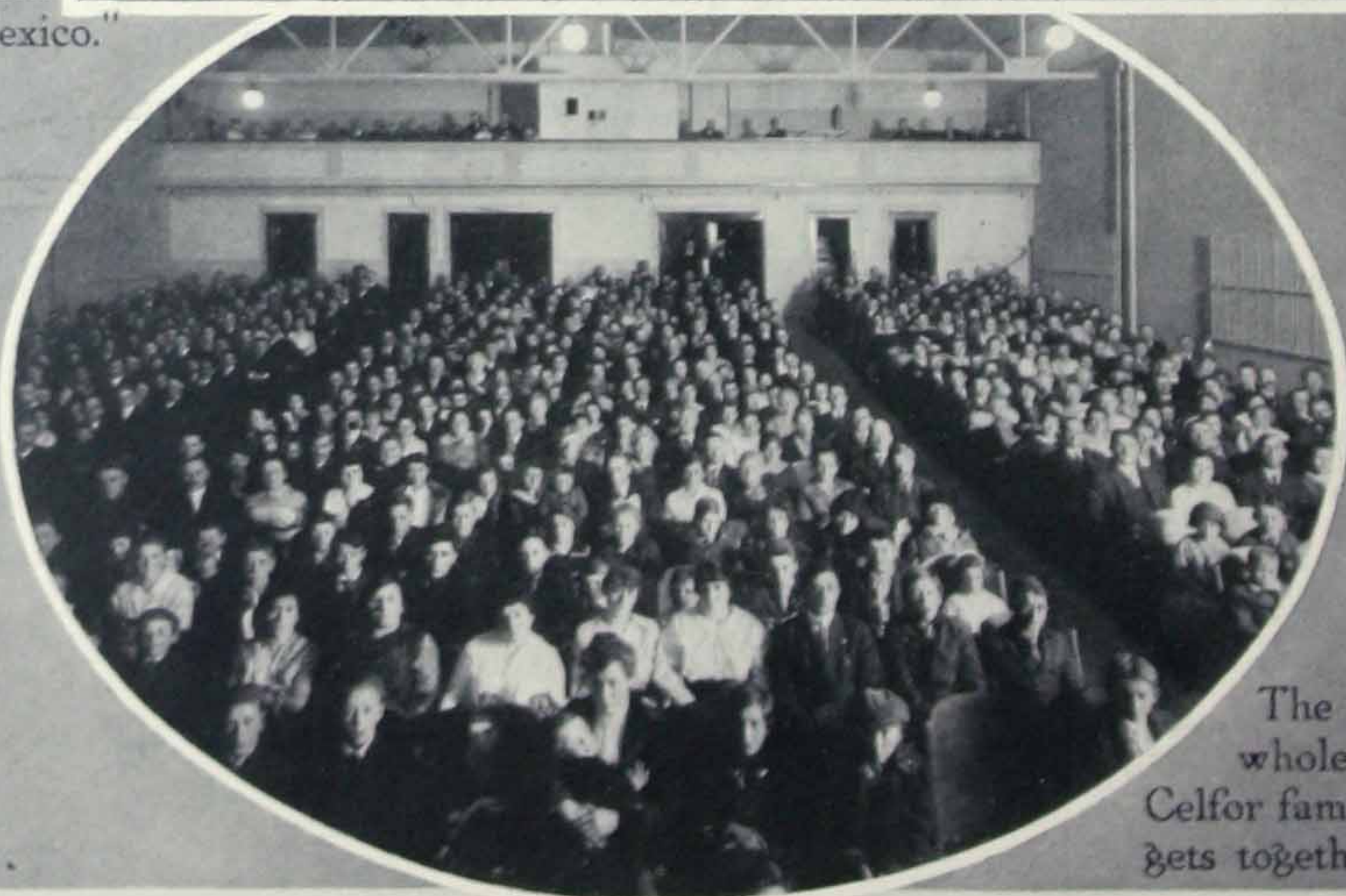
CELFOR



The theatre where recreational activities center.



"The Man from Mexico."



The whole Celfor family gets together.



WHEN PLAY TIME COMES

MEN who work hard must have healthy recreation. The men who make Celfor drills deserve it. To provide a suitable place for all the recreational activities of the plant the company has built a model theatre—tucked right in among the factory buildings, lawns and flower beds.

Ensconced in a beautiful spot facing a pretty park, the graceful lines of the theatre blend in harmoniously with the whole ensemble.

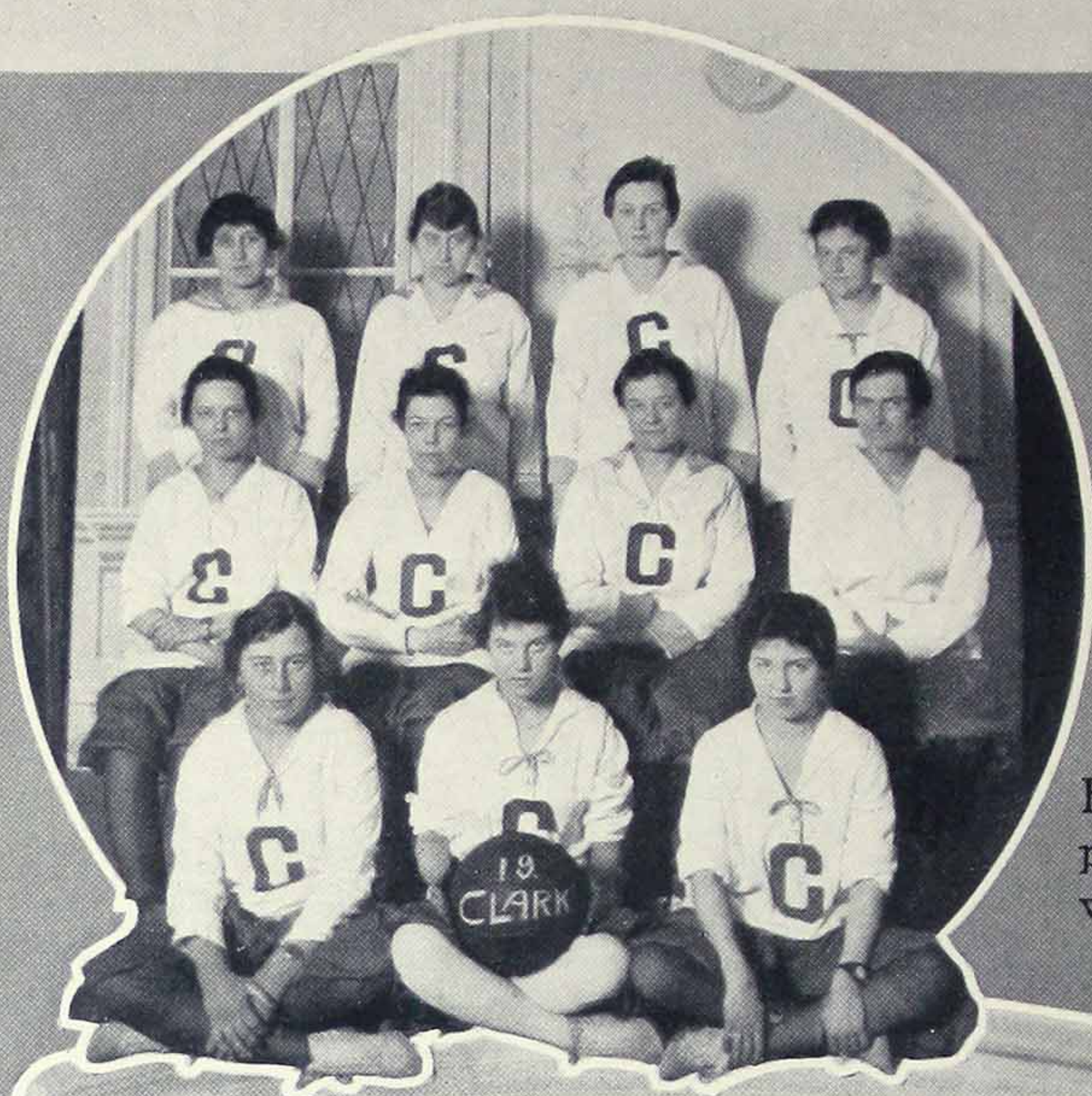
The spacious auditorium will accommodate comfortably a thousand people. The proscenium arch spans an ample stage, with footlights 'n'everything. In the wings are the "property" store rooms and stage appurtenances, and in the basement well appointed shower baths, dressing rooms, a complete kitchenette, and a well stocked music and band room.

The Clark Players present such comedies as "The Man From Mexico," "What Happened to Jones," "A Pair of Sixes," with frequent minstrel shows and other entertainments.

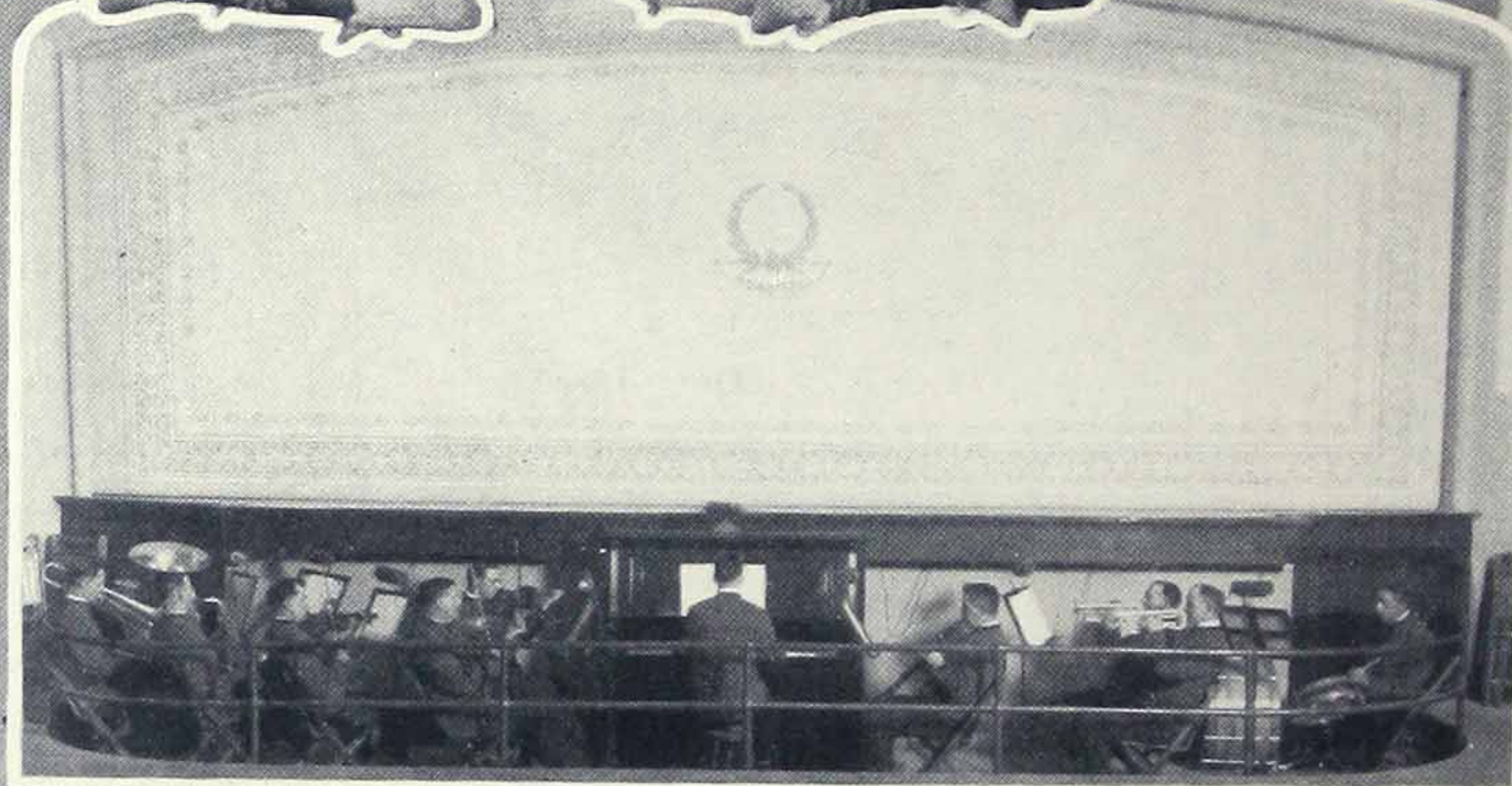
The theatre is used for a great variety of activities: dances, musicales, plays, minstrels, and "movies." It is operated without profit—its use being donated for all company activities and praiseworthy community purposes.

Celfor drills laugh at hard work—it's sport for them.

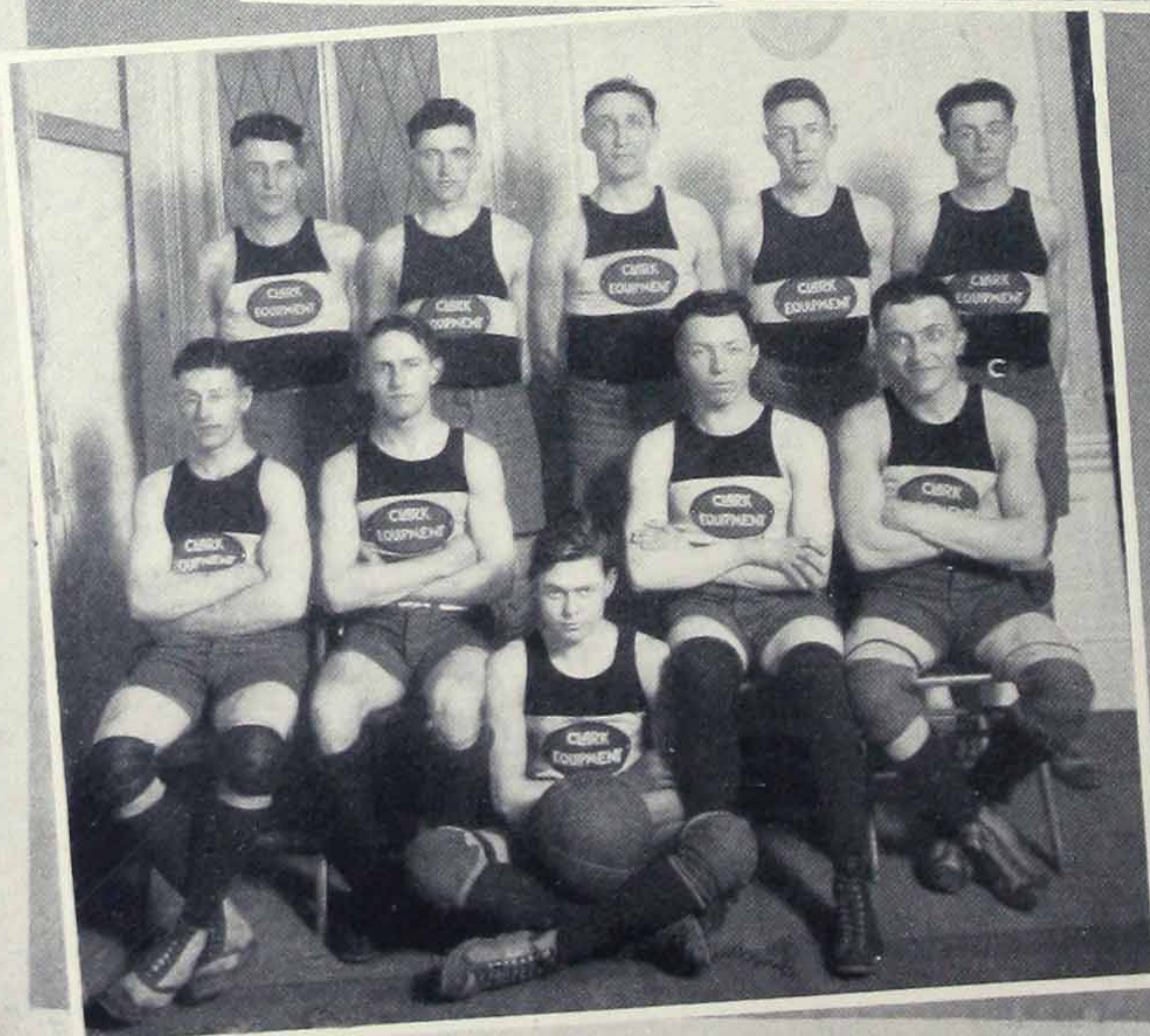




High speed
players
who win.



The
orchestra
is always
in demand.



Celfor-like —
nothing is
too tough
for them
to tackle.

“TIME: PLAY BALL!”

CLEAN sport is a physical tonic. “Tell me how a man plays, and I will tell you what manner of man he is,” someone wisely says.

A single glance at the clear eyes, graceful curves, and well knit muscles of these athletes shows why they have won the Southern Michigan basketball championships.

Youth must have its fling—so when the architects designed the Clark theatre they provided adequate space for a splendid basketball court, with shower baths and dressing rooms.

The young men and women keen for clean sport have their various teams—winners all—and after the home games put on dances—aided and abetted by one of the finest small orchestras in the state.

This same orchestra provides the musical programs for all the theatrical performances and entertainments in the plant theatre.

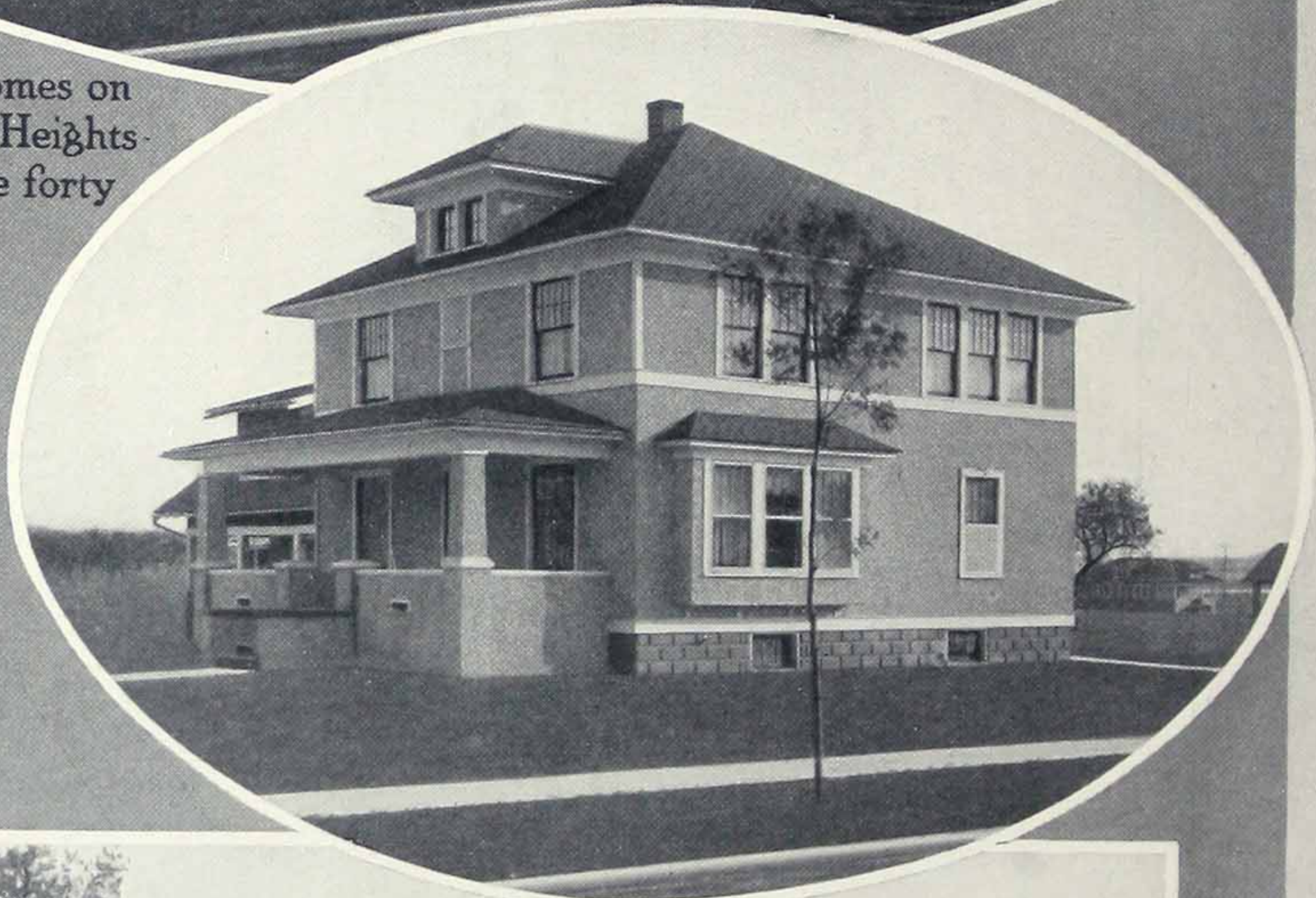
Here also on many a night may be heard the practicing of the Clark Equipment Company Band—their piquant “jazz” music would make even a deacon “shake a wicked foot.” Attaboy!

The spirit that puts the “pep” into the player and brings home the championships is the same spirit that puts the “punch” into Celfor drills and leaves its impress upon every tool made here.

CELFOR



Cozy homes on
Liberty Heights
there are forty
more.





IT'S WORTH THE WORK

THE strength of America is in her homes. We are a home loving and home building people. Buchanan is pre-eminently a city of homes.

The great majority of the men who work in the Clark plant live in their own houses. It was to provide additional homes for the steadily increasing number of workmen that the company purchased a tract of land on the edge of town and laid out a sub-division—Liberty Heights.

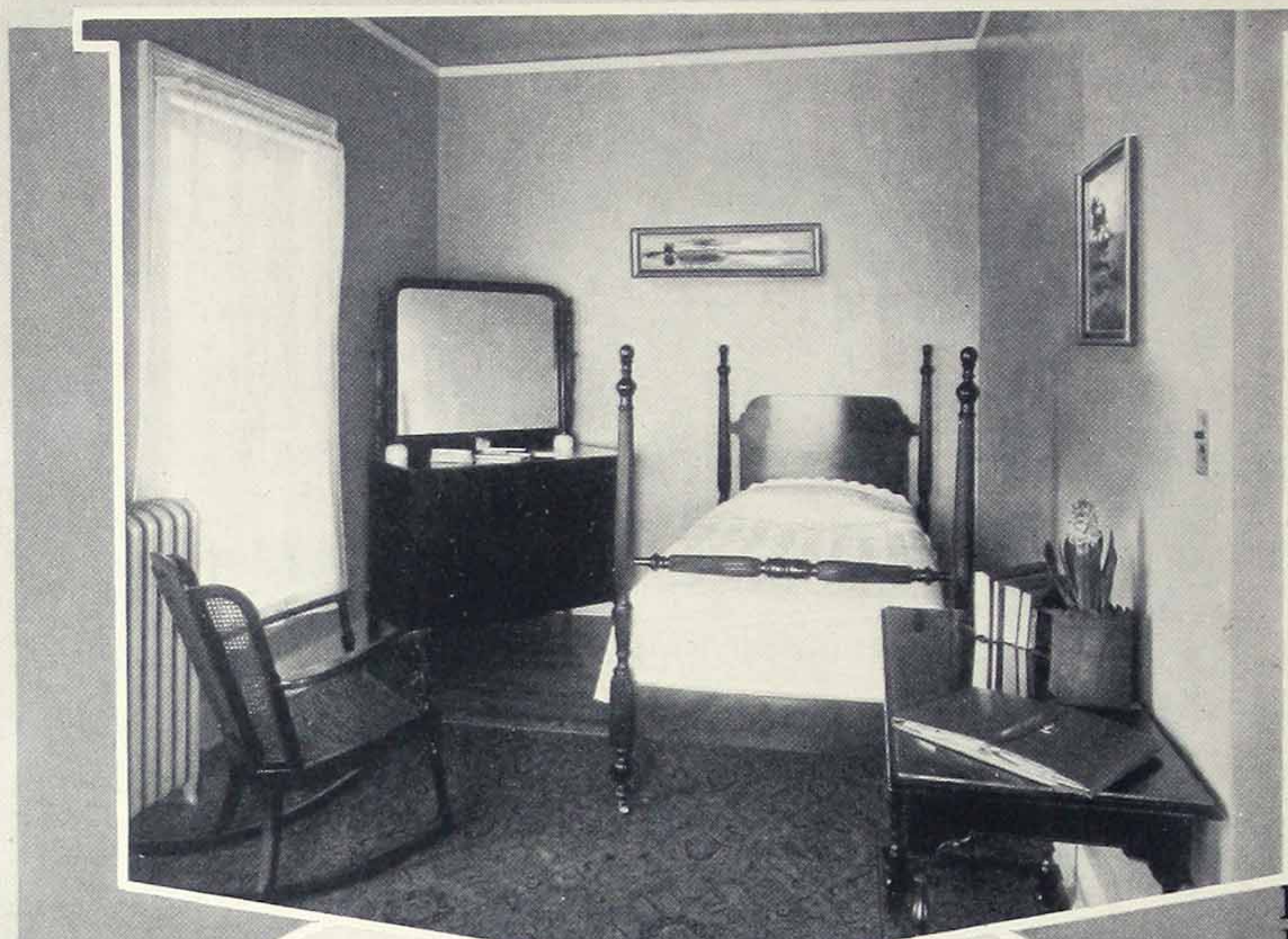
Forty-three houses ranging in cost from \$2,500 to \$4,500 have been built and sold to employees *at actual cost and on their own terms.*

Each house is distinctive, individual, artistic. The entire sub-division is parklike—wide streets, grass plots, flower beds, large lawns. Any city could well be proud of such a suburb.

It means something to a man to wake up in the morning in a house of his own, go to work in a beautiful plant of which he is a part owner, and come home at night to his own home, his own wife and his own family.

Conditions such as these make good men better men—it's what puts mettle into Celfor drills.





Even the
hospital
is comfortable
and homelike.





HELPING NATURE'S HEALING

THE infants of Buchanan have a habit of being born with reasonable regularity. The sweet running waters of the St. Joseph River are very potent. The population of this thriving little town is increasing yearly.

It was to provide for the proper reception of these lusty visitors to our homes that the company established its own hospital—this and the desire to provide proper facilities for the prompt treatment of accidents, sickness and epidemics such as the “flu.”

A conveniently located building was purchased and remodeled. Immaculate wards and private rooms are provided; an operating room is equipped completely including X-ray machine and sterilizer.

We have it straight from the prettiest nurse on the staff that it's a complete modern hospital in every way, and that “even the operating table is most comfortable”—*ne plus ultra*.

Built and equipped, the hospital was turned over without expense to a hospital association formed among our own numbers which has entire charge of its care and operation.

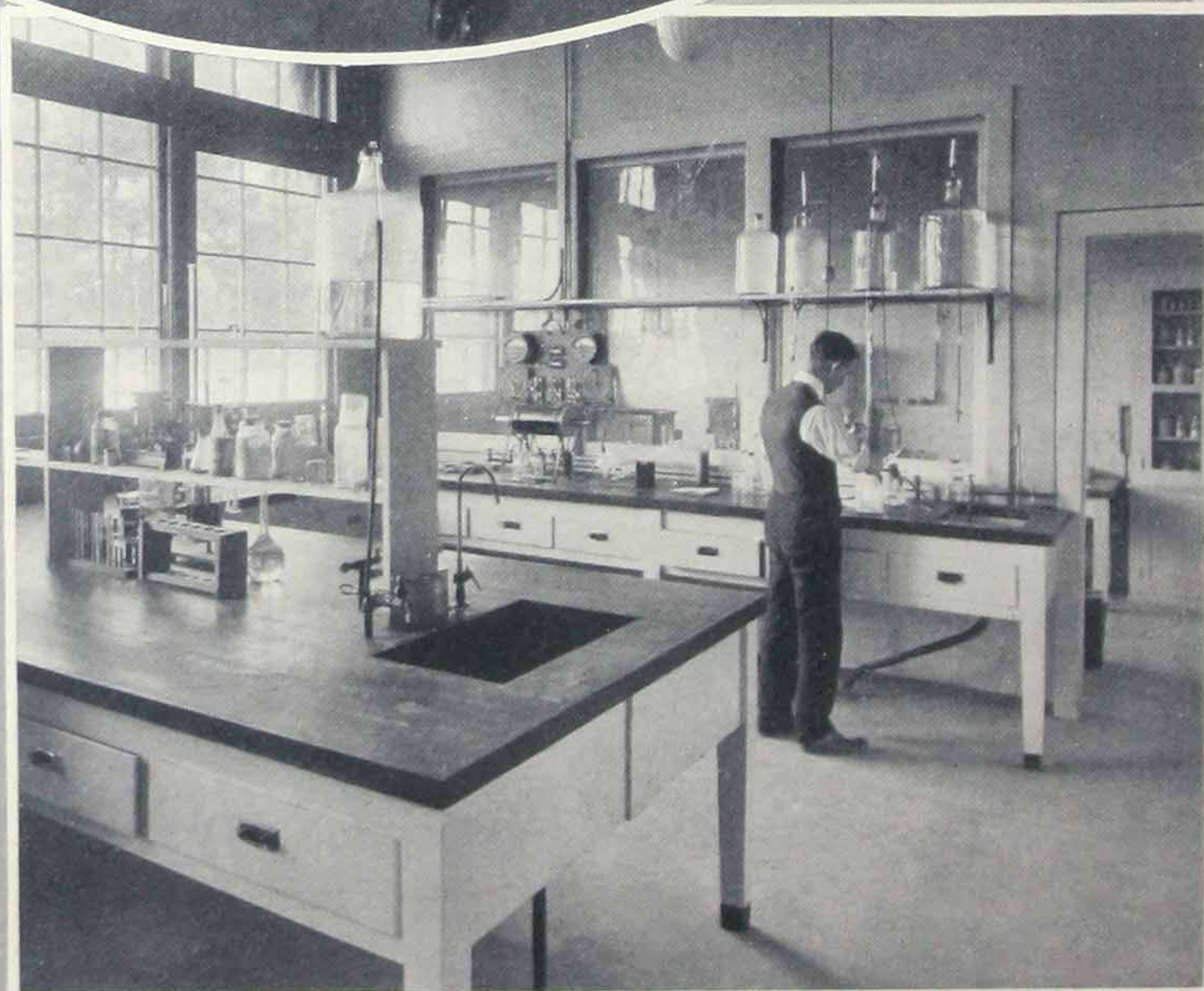
Buchanan is proud of its babies and its Celfor drills—they are both quality products.

CELFOR



Microscopic
examination
of steel
structure.

General
view of
plant
labratory.





WHERE SCIENCE SEARCHES

ETERNAL vigilance is the price of perfection—if we may be allowed to paraphrase a well known quotation.

Celfor high speed twist drills are the thoroughbreds of the tool world. They are primarily designed and built for hard, tough service. They must tackle the hardest, toughest job and do it quickly—at high speed.

They must hold their cutting edges under severest conditions of service. To do this they must be sound at heart—the metal of which they are made must be as near perfect as possible to insure this high quality. All steel made or used by the Clark Equipment Company is tested chemically and microscopically in this model laboratory.

It is because the makers of Celfor drills are also makers of steel that they are able to control so accurately the quality of the metal that enters into their construction.

The same care that guards the purity of the metal, guards the method of production and insures the accuracy of precision—cogent reasons for Celfor predominance.

CELFOR

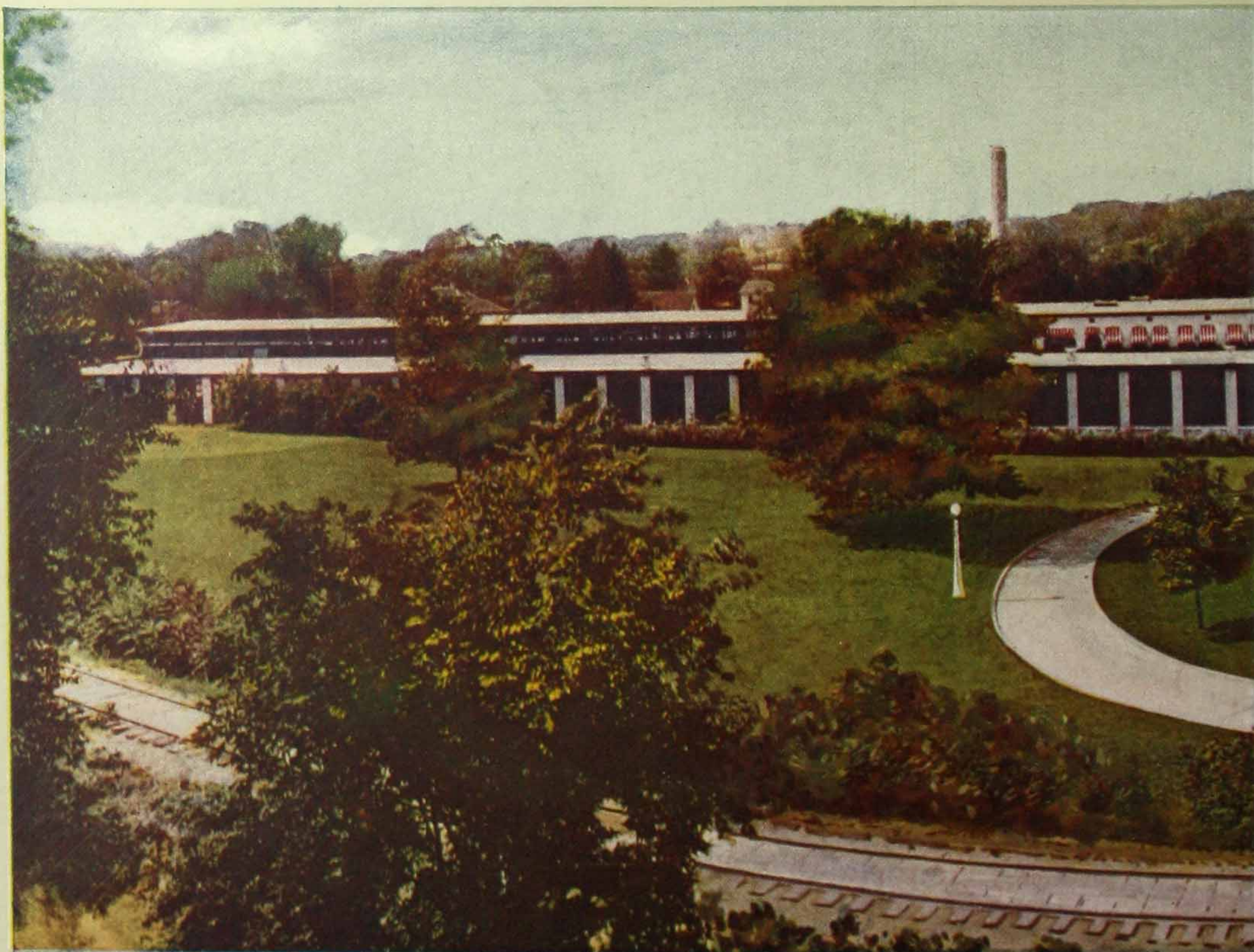
HERE CELFORS ARE FORGED

THIS is the birthplace and home of the high speed twisted drill. Celfor is now the standard of drill and tool excellence the world over.

Celfor drills are produced by our own original forge and hammer process—*they are not milled out of the round.*

Since the first high speed twisted drill was placed on the market by the Celfor Tool Company, now the Clark Equipment Company, it has been conclusively proven that tools so made possess distinct advantages over those milled from the solid.

This ideal plant is a worthy home for Celfor drills.





THEY ARE BORN TOUGH

THE forge and hammer process utilized in the making of Celfor drills preserves the structure of the steel and tends to densify the metal, producing tools of unexcelled strength, toughness, and cutting qualities.

Celfor drill makers were the first to recognize that high speed drills must have ample chip clearance and extra large shanks to accomplish the work for which they are intended.

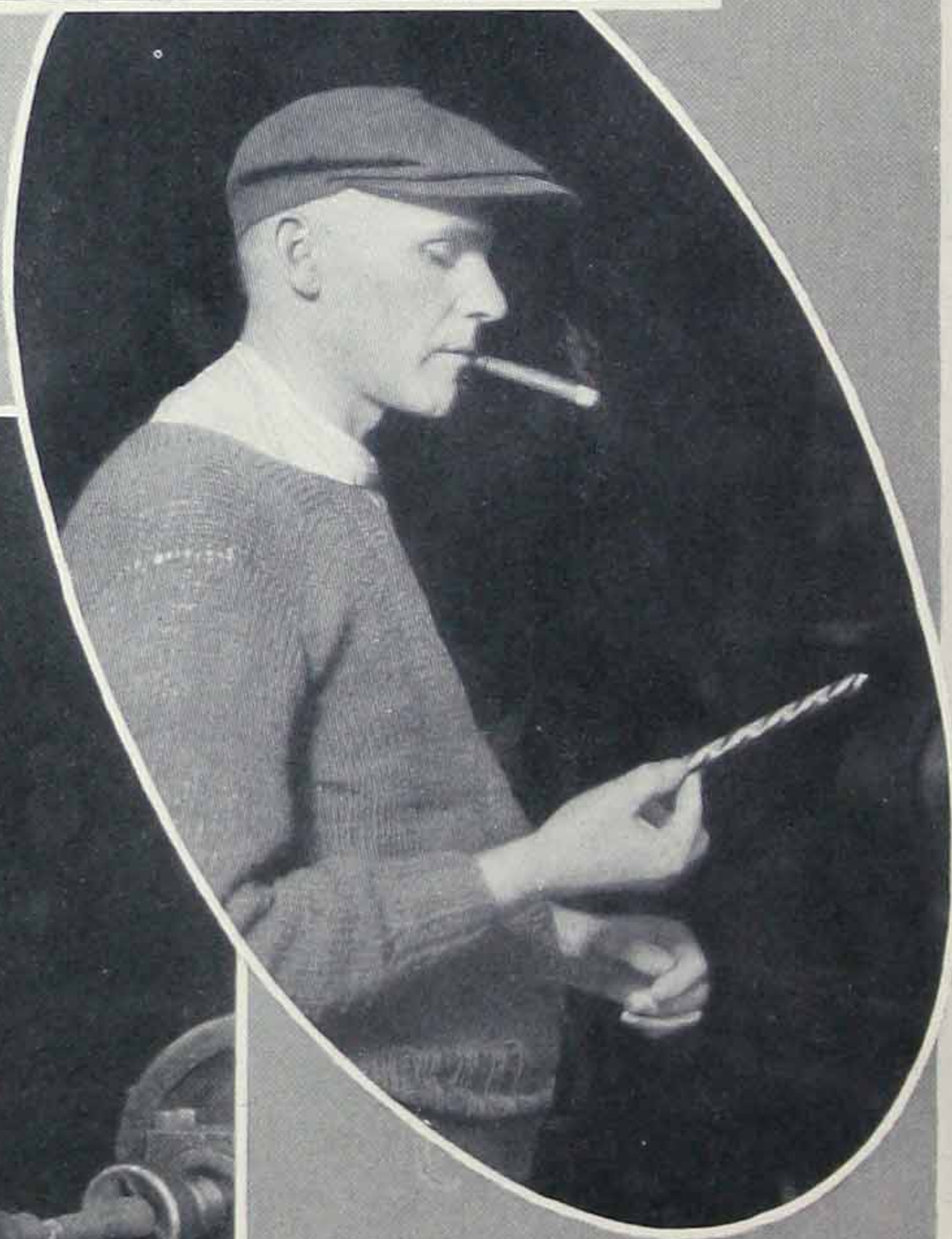
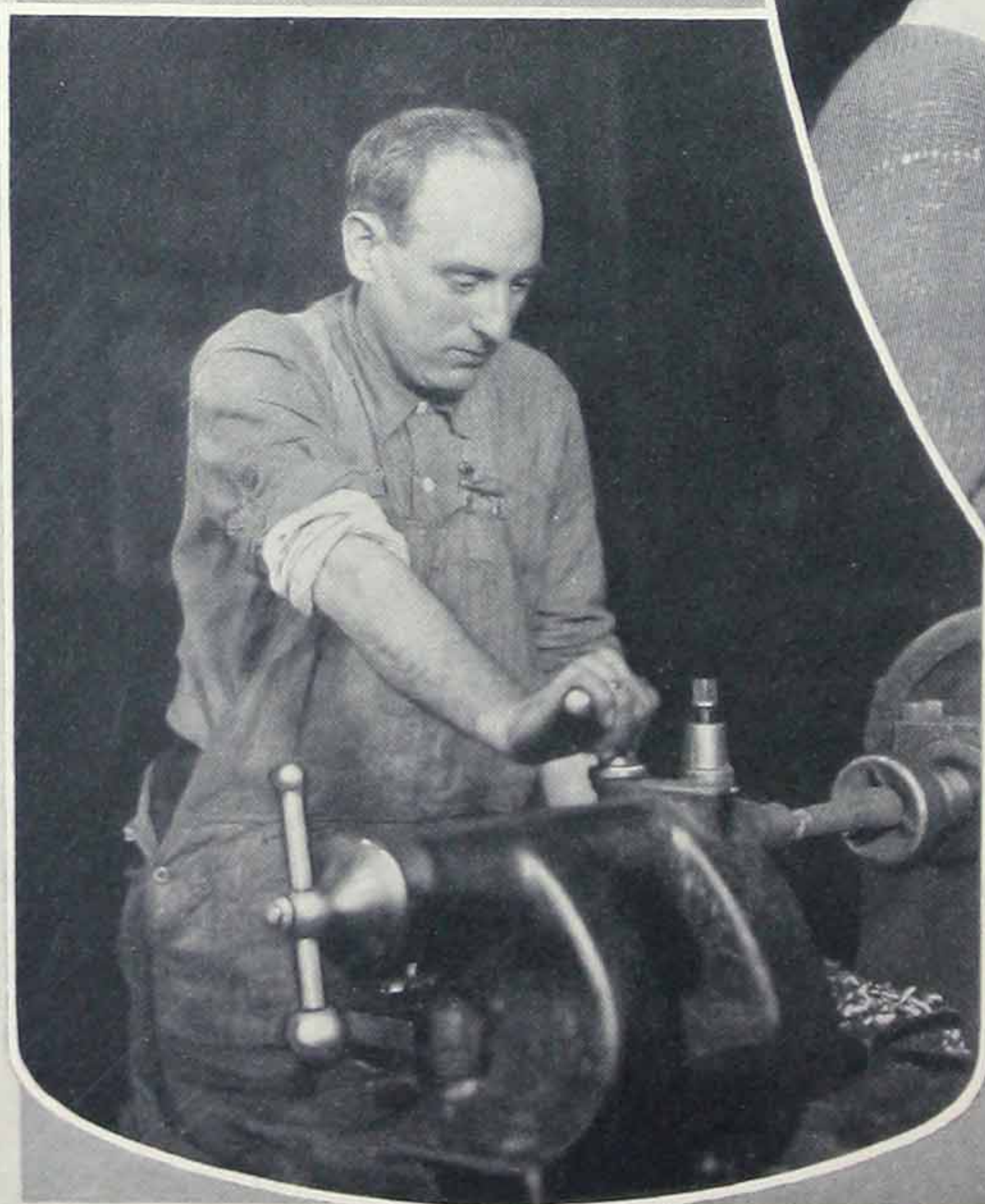
Men, metal and methods—all of the highest character—combine here to produce drills and tools of superlative merit.

Celfor drills are a worthy product of this ideal plant.





Men who are proud
of their Celfor drills.





THIS IS THE LIFE!

SMOKERS, my boy, smokers! Good Havana cheroots, fat doughnuts bursting their crisp brown hides with richness. And cider—yum! yum!—Michigan cider spelled with a capital C.

Put a thousand good humored men in a cozy theatre. Turn loose the finest little volunteer orchestra in captivity—loosen up the spigots on a few barrels of Michigan's famous home-made near-prohibition cider, and let "Pop" Hanlin (the man who stole the twist out of tobacco and put it in Celfor drills) uncork a few of his uncensored jokes—and you have the makings of a big time.

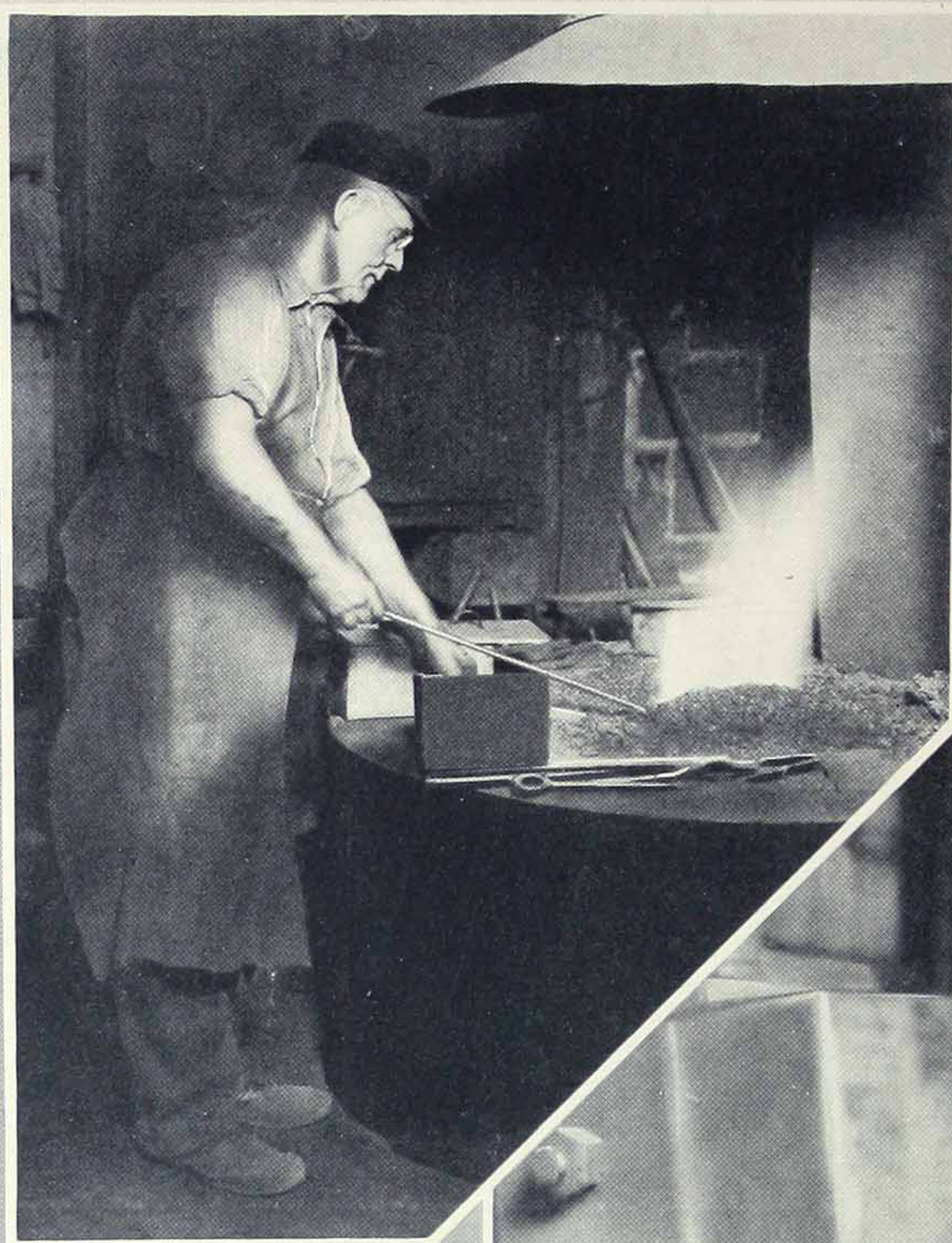
Remember, too, a big percentage of these men are stockholders and profit sharers in the company. Our people have an idea that the man who invests his life where he invests his money is entitled to a larger dividend than the man who invests only his cash.

So our men who purchase stock receive an Employees' Profit Sharing Certificate which pays big special dividends each year *in addition to regular dividends* paid to all stockholders.

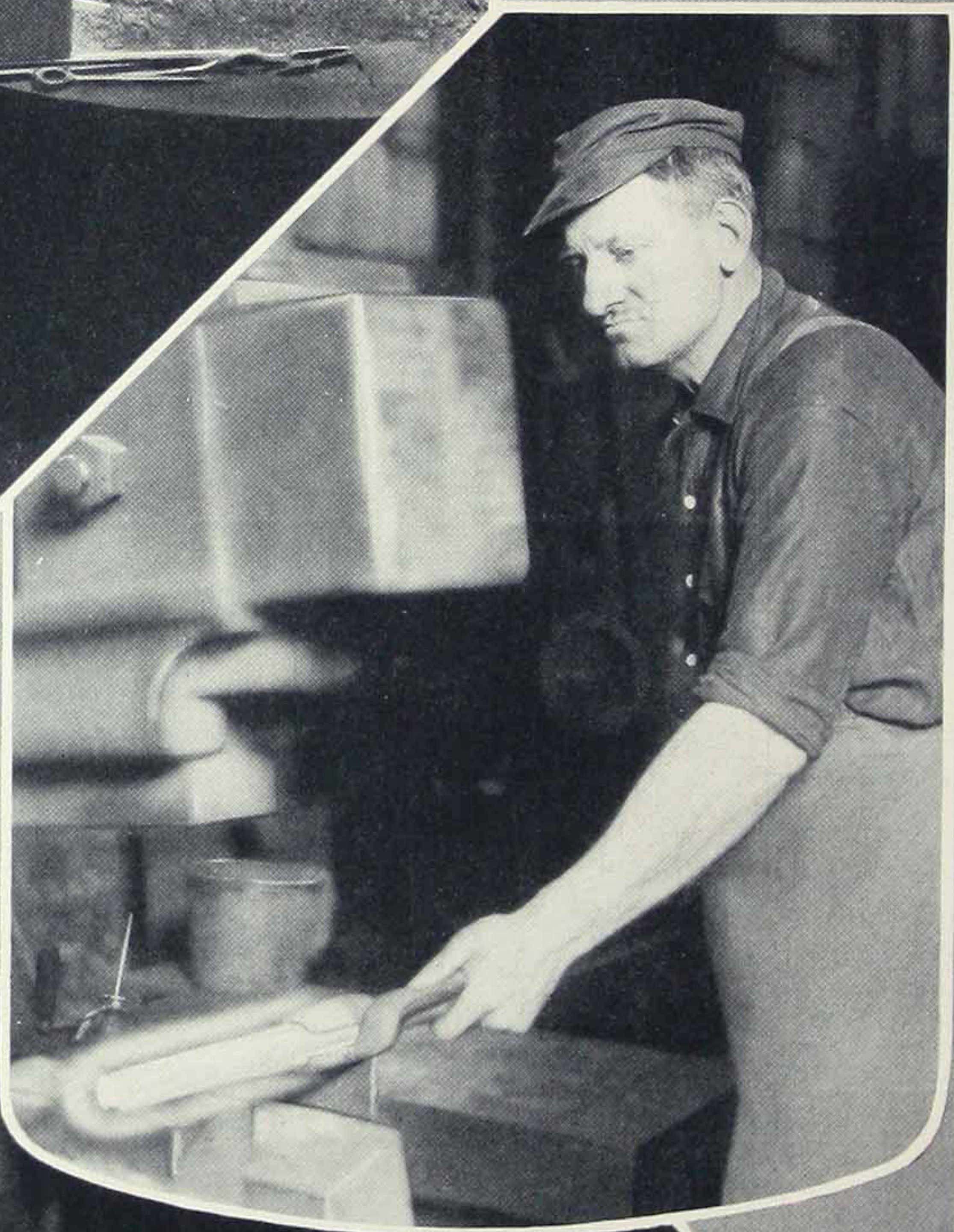
Thus it is—work and play. But the daily striving to approximate an ideal graves character upon the faces of men with the certitude of the etcher's acid.

It's a big happy family with a heart tie—and they make Celfors—the "cutness" drill ever forged.

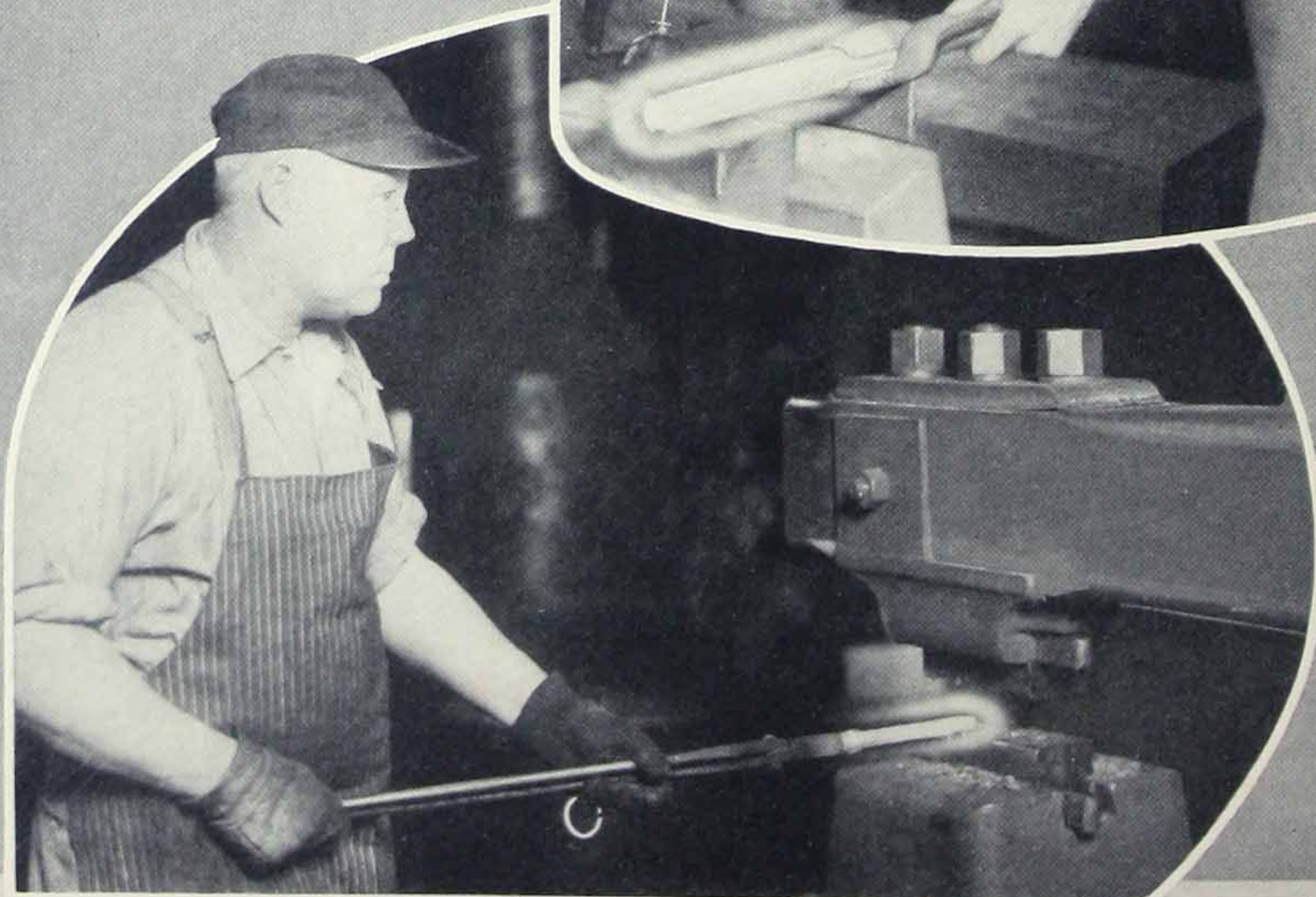
CELFOR



Dressing
shop
tools.



Forging
Celfor
drills.





FORGING CELFOR DRILLS

AN ancient skin-clad Tubal Cain, working over his flaming forge in the twilight of the paleolithic age discovered how to temper iron—how to give it hardness and elasticity.

Modern metallurgists have developed steels of almost inconceivable hardness and modern tool makers have been called upon to produce drills and tools that will cut them quickly, accurately, cleanly. High speed tools are the result.

A high speed drill milled out from the round by the old cutting process is weakened structurally by the cutting away of the fibre of the steel; the waste is also great as the cost of the special steel is high.

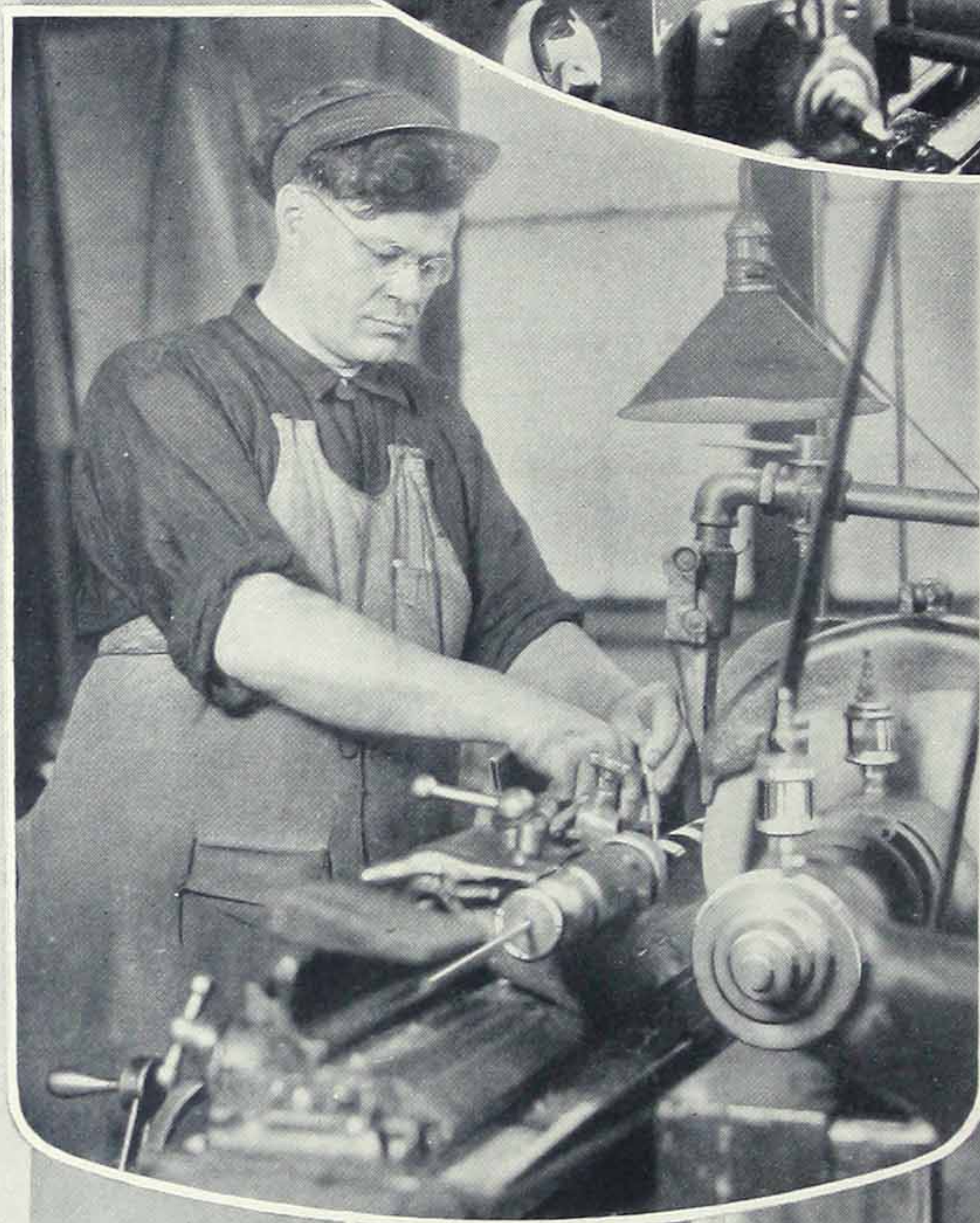
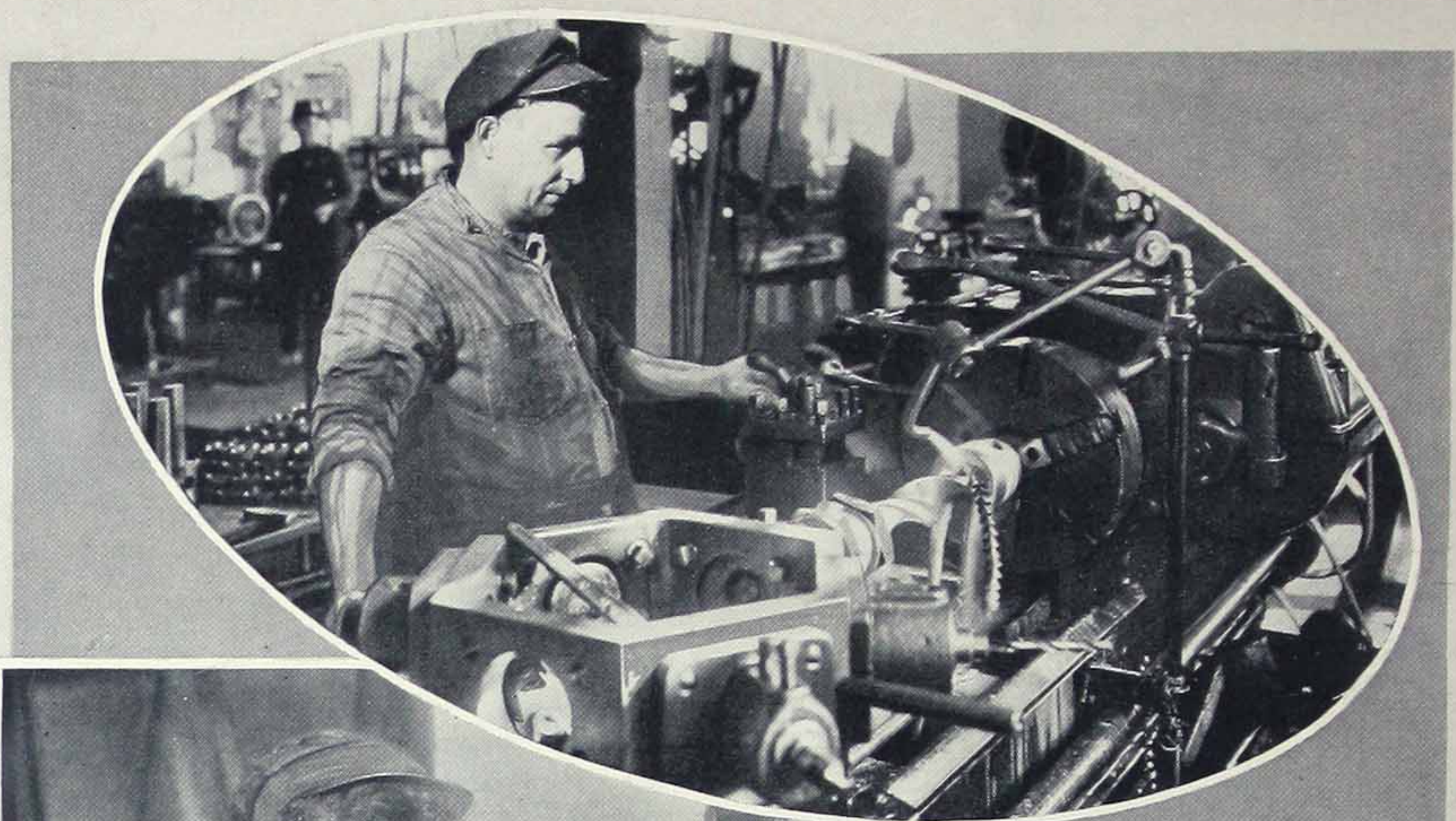
Here was born an idea—and that idea was named Celfor—now a healthy youth in the fullness of strength.

Celfor drills are hand forged. The finest high speed steel is used. The drill is forged straight, reheated and twisted hot by an ingenious machine designed for that purpose.

Celfor drills with two, three, or four flutes are formed by forging *instead of milling*, giving great strength, conserving the material, making the steel denser.

Hark ye! Celfor drills are forged—not milled.





Men who
put mettle
into
Celfor drills.





BUILDING CELFOR IDEALS

ACCURACY, precision and speed dominate the modern machine world. It is not enough to make a good tool or even the best tool—the *perfect* tool is what the workman must have.

Every Celfor drill is forged of finest high speed steel. It is then twisted hot.

The last step toward perfection in the life of a Celfor drill comes when it is tempered by our special process. It comes up with a fighting spirit, a tough heart, and a fabric into which mettle has been fused.

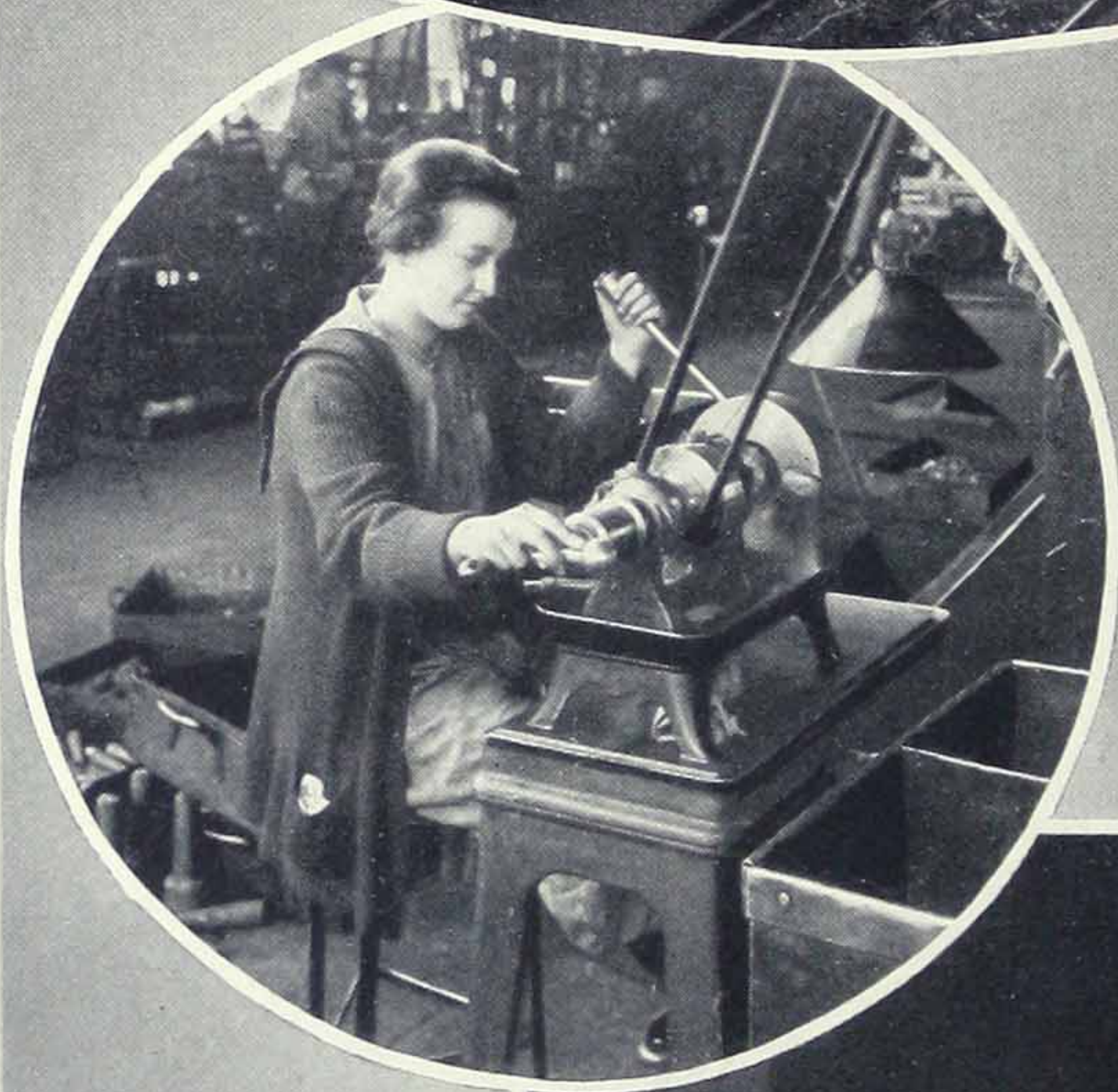
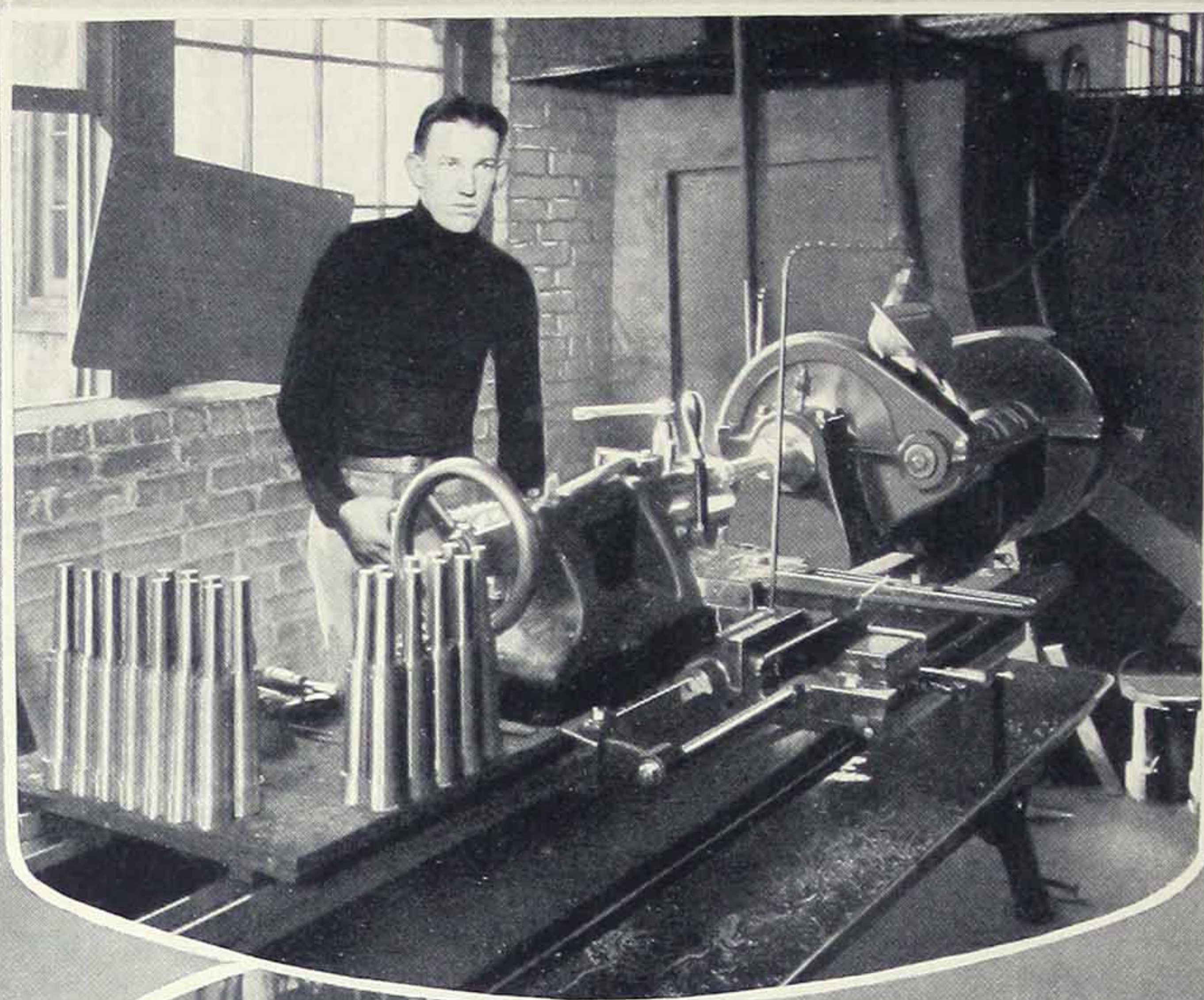
Here micrometers rule supreme. The proverbial “hair’s breadth” would be unlawful license here.

Throughout every step of production Celfor drills are subjected to careful constant inspection. The process of manufacture is long and laborious, but the results are certain and satisfactory.

Celfor supremacy rests upon manufacturing efficiency—plus ideals. Through all the work there runs the ideal of developing life’s possibilities by contributing to life’s opportunities.

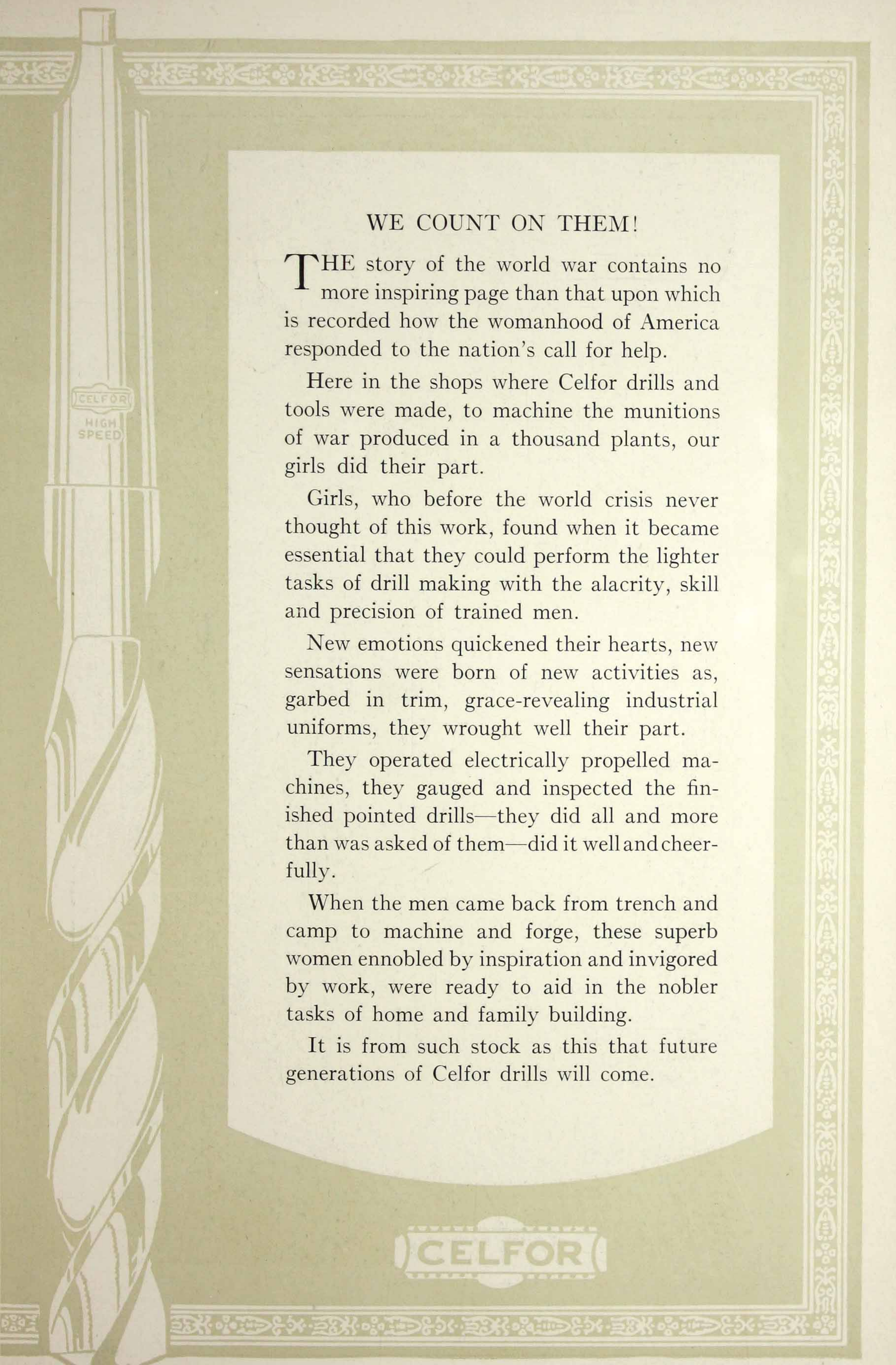
—the spark of pride illuminating the drill maker’s face is but the natural expression which comes because he is building the Celfor ideal into his drill and into his life.





Women helped
produce Celfors
for war work—
till the soldiers
came back.





WE COUNT ON THEM!

THE story of the world war contains no more inspiring page than that upon which is recorded how the womanhood of America responded to the nation's call for help.

Here in the shops where Celfor drills and tools were made, to machine the munitions of war produced in a thousand plants, our girls did their part.

Girls, who before the world crisis never thought of this work, found when it became essential that they could perform the lighter tasks of drill making with the alacrity, skill and precision of trained men.

New emotions quickened their hearts, new sensations were born of new activities as, garbed in trim, grace-revealing industrial uniforms, they wrought well their part.

They operated electrically propelled machines, they gauged and inspected the finished pointed drills—they did all and more than was asked of them—did it well and cheerfully.

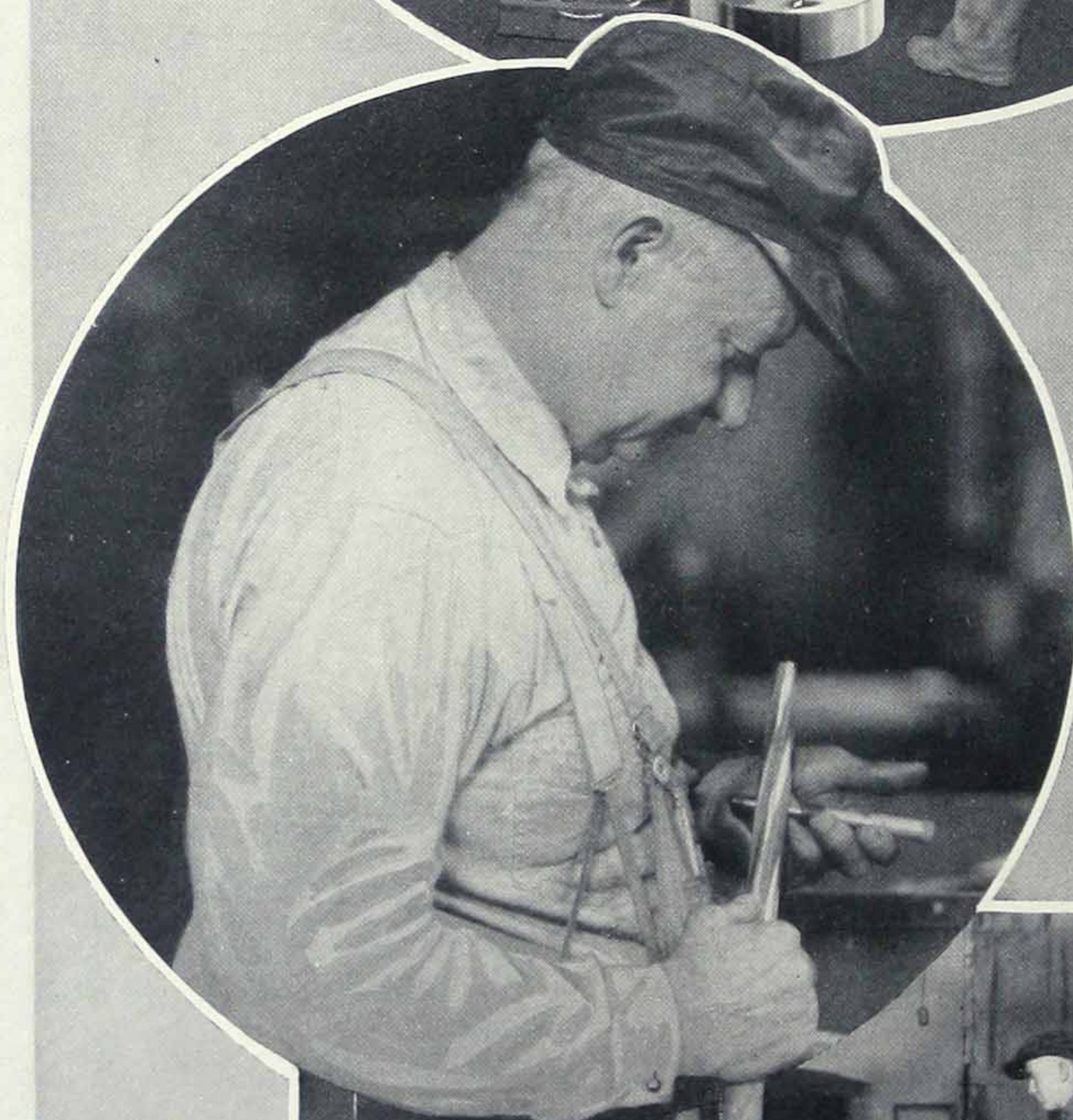
When the men came back from trench and camp to machine and forge, these superb women ennobled by inspiration and invigored by work, were ready to aid in the nobler tasks of home and family building.

It is from such stock as this that future generations of Celfor drills will come.

CELFOR



Every drill
is shock tested
and
micrometer
gauged.



Carrying
finished
drills from
inspector to
stock room.





THE PLACE OF SEARCHING

IT RINGS true as steel means much in the young life of a Celfor drill. When these talismanic words have been spoken it means that a new twist drill has attained its majority—is entitled to its name “Celfor.”

Forge, hammer, oven, grinder, buffer—all have had their turn at disciplining a Celfor drill. From each it takes its best. Many succumb. Those who endure come with valiant hearts to the final test of perfection.

It is the shock test—the zero hour in the life of any drill. The ever-alert eye of ceaseless inspection has brought it to this place of searching.

Its fabric is sound—the finest high speed steel. Its construction is right—forged, oven treated, the Celfor method. Its dimensions are precise—gauged to micrometer exactness.

—but is its heart sound—is it diamond hard without brittleness—has it the resiliency of twisted steel without a flaw? We shall see!

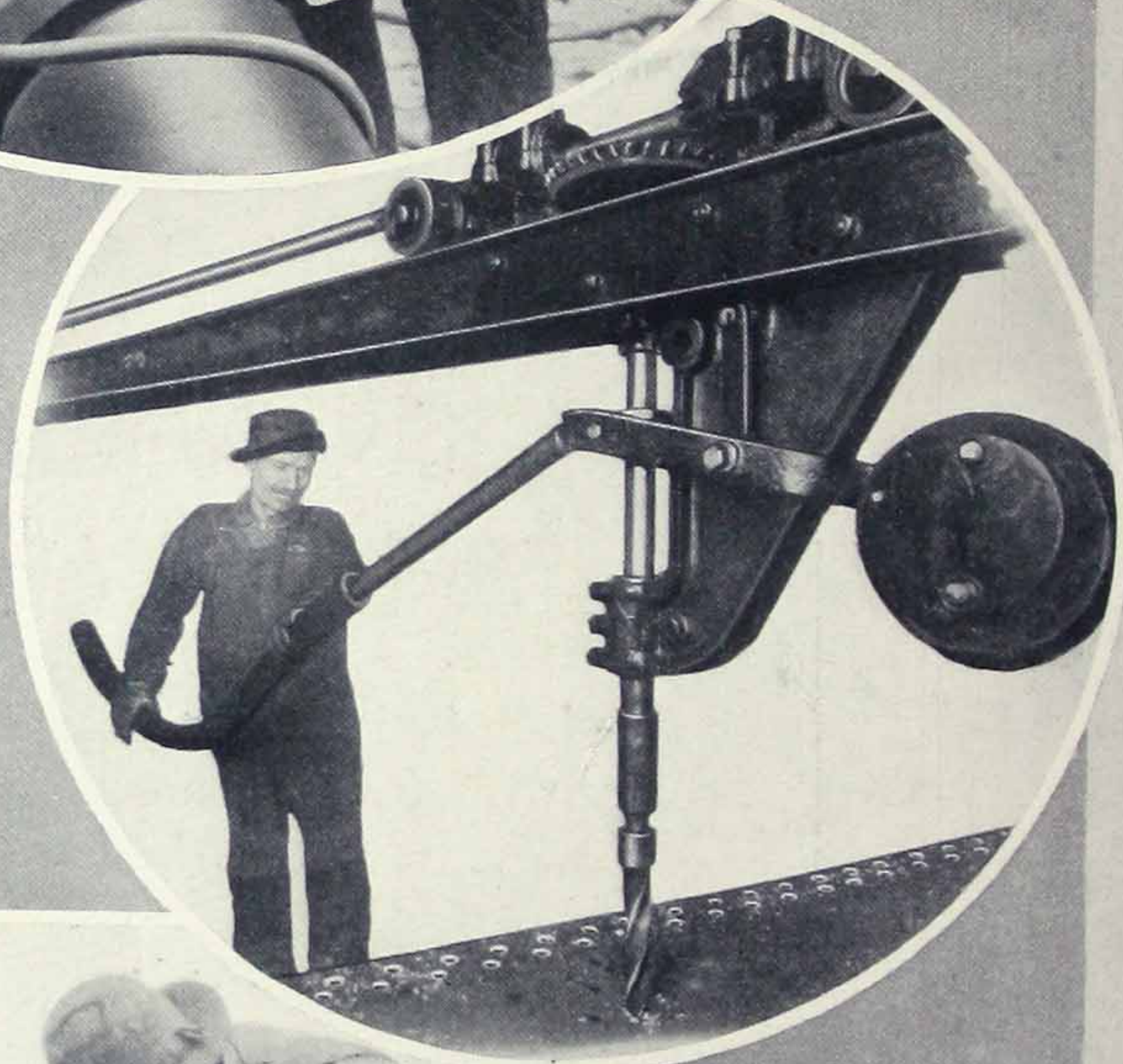
Back to the primitive! The inspector hurls it with force against a hardened steel block. It “rings true as steel” and rebounds high in the air. It is perfect! Let there be a check or flaw hidden in the metal of even microscopic proportions and the drill will snap like glass.

Is it any wonder Celfor drills stand the gaff—their mettle is bred in the bone.





Drilling
pipe flanges.



Countersinking
ship plates.

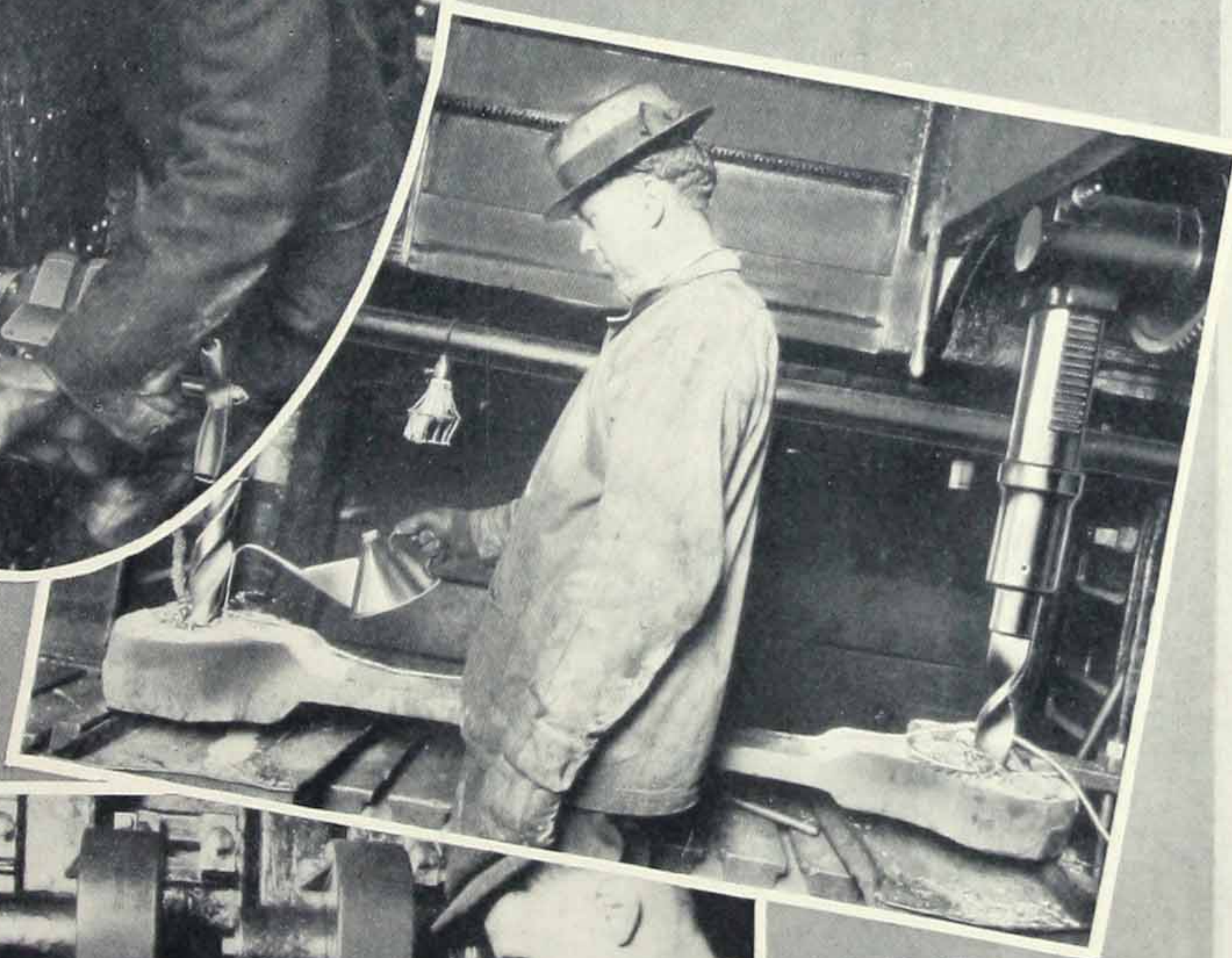
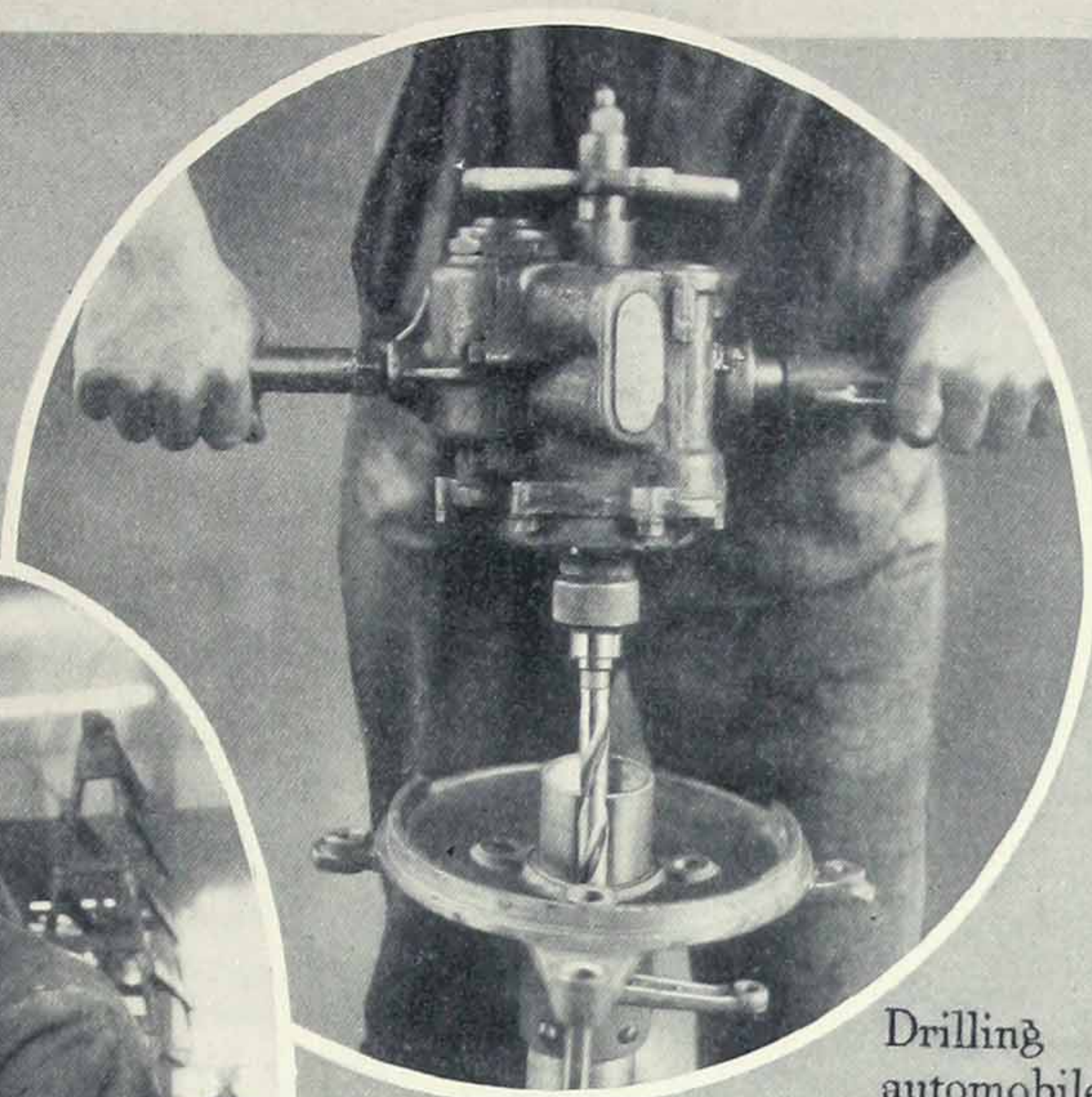


Reaming
deck plates.

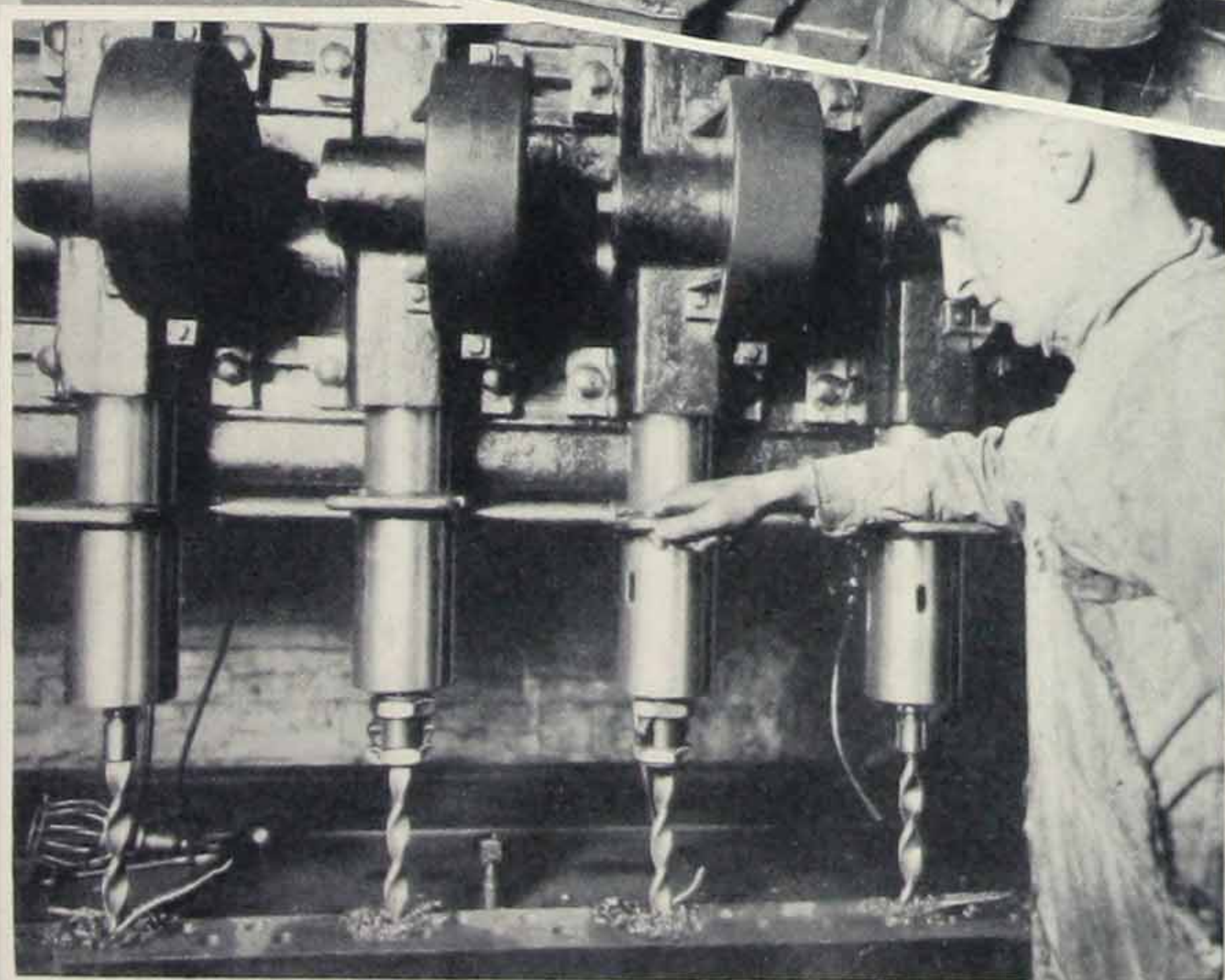
Reaming
locomotive
boiler.



Drilling
automobile
parts.



Drilling
locomotive
connecting rods.



Drilling
locomotive
mud rings.



Some types of Celfor drills.

CELFOR PRODUCTION

TWIST DRILLS	BLACKSMITH DRILLS	DRILL CHUCKS
FLAT TWIST DRILLS	THREE FLUTED DRILLS	DRILL SOCKETS
FLAT DRILLS	FOUR FLUTED DRILLS	LATHE TOOL HOLDERS
BONDING DRILLS	FLUE SHEET DRILLS	TOOL BITS
TRACK BIT DRILLS		FLUE CUTTERS
CENTERING DRILLS	CHUCKING REAMERS	DRILL GAUGES
RACHET DRILLS	BRIDGE REAMERS	
OIL TUBE DRILLS	END MILLS	

CELFOR DISTRIBUTION

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Boston.....	Manning, Maxwell & Moore, Inc.
Buffalo.....	H. D. Taylor Company.
Chicago.....	Dale-Brewster Machinery Company.
Cincinnati.....	E. A. Kinsey Company.
Cleveland.....	W. M. Pattison Supply Company.
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New York.....	Manning, Maxwell & Moore, Inc.
Philadelphia.....	Manning, Maxwell & Moore, Inc.
San Francisco.....	Berger & Carter Company.
Schenectady.....	Clark Witbeck Company.
Seattle.....	Seattle Hardware Company.
St. Louis.....	Geller, Ward & Hasner Hardware Co.
St. Paul.....	Robinson, Cary & Sands Company.
Toledo.....	National Supply Company.

FOREIGN:

Amsterdam.....	U. S. Trading Corporation.
Buenos Aires.....	Marden, Orth & Hastings Company.
Calcutta.....	Tapper & Selikowitz.
Christiana.....	John M. Larsen.
Copenhagen.....	John M. Larsen.
Gothenberg.....	John M. Larsen.
London.....	Coats Machine Tool Company.
Milan.....	Weiss & Stabilini.
Montreal.....	Rudel-Belnap Machinery Company.
Paris.....	Moersch & Roumet.
Stockholm.....	John M. Larsen.
Tokyo.....	Andrews & George.
Toronto.....	Rudel-Belnap Machinery Company.

